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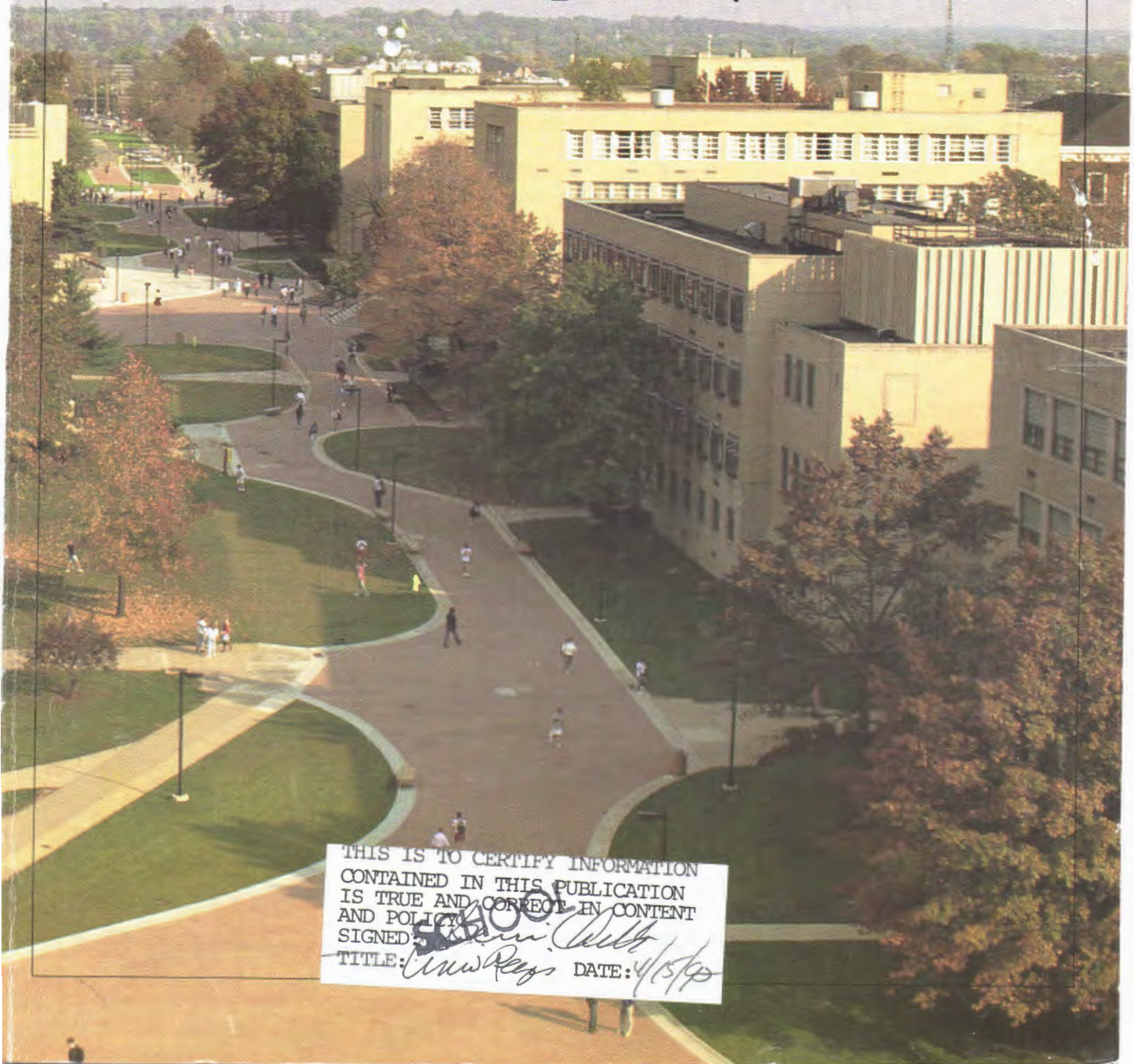
THE UNIVERSITY OF

AKRON

GENERAL BULLETIN

1 9 9 1 - 9 2

A-4401



THIS IS TO CERTIFY INFORMATION
CONTAINED IN THIS PUBLICATION
IS TRUE AND CORRECT IN CONTENT
AND POLICY.
SIGNED: *[Signature]*
TITLE: *Unw Pays* DATE: *4/15/92*

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Calendar 1991-92

Fall Semester 1991

*Labor Day	Mon., Sept. 2
Day and Evening Classes Begin	Tues., Sept. 3
Veterans Day (staff holiday)	Mon., Nov. 11
**Thanksgiving Break	Thurs.-Sat., Nov. 28-30
Classes Resume	Mon., Dec. 2
Final Instructional Day	Sat., Dec. 14
Final Examination Period	Mon.-Sat., Dec. 16-21
Commencement	Sat., Dec. 21
Spring Intersession	Mon.-Fri., Jan. 6-17

Spring Semester 1992

*Martin Luther King Day	Mon., Jan. 20
Day and Evening Classes	Tues., Jan. 21
Spring Break	Mon.-Sat., March 23-28
Founders Day	Fri., May 8
***May Day	Fri., May 8
Final Instructional Day	Sat., May 9
Final Examination Period	Mon.-Sat., May 11-16
Summer Intersession	Mon.-Fri., May 18-June 12
Commencement for Law School	Sat., May 23
Commencement	Sat., May 16

Summer Session I

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

Summer Session II

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

Fall Semester 1992

Classes Begin	Mon., Aug. 31
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Inquiries

Address inquiries concerning:

Admissions information, campus tours, housing, and transfer of credits to the Office of Admissions, 166 Fir Hill (216) 972-7100.

Financial aid, scholarships, loans, and student employment to the Office of Student Financial Aid and Employment, Spicer Hall (216) 972-7032.

Athletics to the Athletic Director, James A. Rhodes Health and Physical Education Building, (216) 972-7080.

Registration, scheduling, residency requirements, and veteran's affairs to the Office of the Registrar, Spicer Hall, (216) 972-7844.

Continuing education and noncredit programs to Buckingham Center for Continuing Education, (216) 972-7171.

Graduate study to the Graduate School, Fir Hill Center, (216) 972-7663.

The University switchboard number is (216) 972-7111.

The University of Akron
Akron, OH 44325

*University closed

**University closed from Wednesday, November 27 at 5 p.m. until Monday, December 2 at 7 a.m.

***Classes cancelled from noon to 5 p.m.

While every effort is made to provide accurate and up-to-date information, the University reserves the right to change, without notice, statements in the Bulletin Series which include, but are not limited to rules, policies, procedures, fees, curricula, courses, programs, activities, services, schedules, course availability or other matters. For example, courses may be closed due to limited resources or facilities or cancelled because of the unavailability of faculty or insufficient enrollment.

The University of Akron Bulletin
(USPS 620-400)

Vol. XXX

September 1991

POSTMASTER:

Send address changes to *The University of Akron Bulletin*, Office of Admissions, The University of Akron, Akron, OH 44325-2001.



SECTION

One

About The
University of Akron

F A C T S

Five buildings on campus named
for individuals:

- **E.J. Thomas Performing Arts Hall:** for Edwin Thomas, former Goodyear chairman and University trustee.
- **Gladwin Hall:** for Mary E. Gladwin, nurse who served on the front lines in three wars and organized Akron's Red Cross chapter.
- **Zook Hall:** for George F. Zook, University president 1925-33 and later U.S. commissioner of education under Franklin Roosevelt.
- **Knight Chemical Laboratories:** for Charles M. Knight, who taught the first rubber chemistry courses in 1909.
- **Bierce Library:** for General Lucius V. Bierce, early Akron mayor, lawyer, historian, state senator, philanthropist, soldier.

Background

HISTORY

The self-conscious connection between The University of Akron and its surrounding community has been a recurring theme from the institution's founding as a small denominational college in 1870 to its current standing as a major metropolitan state university. It is significant that the efforts, energy, and financial support of an Akron manufacturer of farm equipment, John R. Buchtel, were instrumental in persuading the Ohio Universalist Convention to build its college on a hill overlooking the town stretched along the Ohio Canal. The grateful trustees responded by naming the school Buchtel College. It is also significant that during its first four decades, the struggling institution was repeatedly aided in its efforts to survive by various local entrepreneurs who pioneered and prospered in such industries as cereals, clay products, matches, and rubber. Buchtel College's emphasis on local rather than denominational interests became increasingly clear, and by 1913 those strong ties and the school's financial situation caused its trustees to transfer the institution and its assets to the city. For the next 50 years, the Municipal University of Akron received its principal support from city tax funds and swelled from an enrollment of 198 to nearly 10,000.

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

And changes within the Municipal University's curriculum reflected the strong interrelationship of town and gown. In 1914 a College of Engineering began instruction, and other professional schools followed: education (1921), business administration (1953), law (1959), the Community and Technical College (1964), fine and applied arts (1967), and nursing (1967).

Considering the institution's location in the heart of the burgeoning rubber industry, it seemed only appropriate that the world's first courses in rubber chemistry would be offered at Buchtel College in 1909. From those first classes in Professor Charles W. Knight's laboratory would evolve the prestigious College of Polymer Science and Polymer Engineering (1988), a world leader in polymer research. In the 1930s and 1940s, with the establishment in Akron of the Guggenheim Airship Institute, UA scientists studied the structure and design of zeppelins, and during World War II University of Akron researchers helped fill a critical need in the U.S. war effort by contributing to the development of synthetic rubber.

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

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

The University's first doctoral degree was, appropriately enough, awarded in polymer chemistry in 1959, but master's degrees were granted as early as 1882. Doctoral work has now expanded to programs leading to the highest academic degree in 18 different fields of study.

In 1963 the receipt of state tax monies made UA a state-assisted municipal university, and on July 1, 1967, The University of Akron officially became a state university. Today nearly 29,000 students from 43 states and 83 foreign countries are enrolled in its 10 colleges, making it the third largest university in Ohio, and 46th largest in the nation. Its 80,000 alumni are worldwide. The 162-acre main campus with its 77 modern buildings is within walking distance of downtown Akron and its shopping, restaurants, entertainment, and cultural centers. The Northeast Ohio metropolitan area, with its 1.5 million population, provides numerous opportunities in recreation, major collegiate, amateur and

professional sports, concerts, cultural events, and commerce, all within easy driving distance and many accessible via public transportation.

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

MISSION AND GOALS

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

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

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

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

Mission

The University of Akron maintains a commitment to:

- Provide learning opportunities for the full spectrum of students.
- Create and discover knowledge through basic and applied research.
- Create a learning environment with emphasis on a full collegiate experience for each student, leading to opportunities for cognitive, social and personal development.
- Provide a forum for the examination of ideas and concepts and the generation of scholarly dialogue within the established principles of academic freedom.
- Encourage opportunities for interdisciplinary study and research.
- Strive for continued improvement of the teaching and learning environment.
- Prepare career-oriented persons for professional leadership roles in regional, national, and international organizations and institutions.
- Offer appropriate educational and professional services to its various publics within available resources and established continuing education and outreach philosophies.
- Maintain its firmly established tradition of concern for the higher educational and cultural needs of our area.

Goals

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

GOAL I

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

GOAL II

The University will 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 resources for basic and applied research and by encouraging professional and intellectual development.

GOAL III

The University will design programs and the teaching/learning process to fulfill the students' and society's varied educational needs but will also 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 its 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 and assures students taking preprofessional courses leading to advanced study in such fields as medicine, dentistry, law, and theology that they are receiving sound preparation for acceptance at other graduate and professional schools. Accreditation also provides the security of knowing that the University will honor most credits earned at a similarly accredited college or university. Degrees earned at the University are respected and sought after by prospective employers.

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

Accreditation Board for Engineering and Technology
 American Assembly of Collegiate Schools of Business
 American Chemical Society
 American Dietetic Association
 American Speech-Language-Hearing Association

Committee on Allied Health Education and Accreditation of American Medical Association
 Council for the Accreditation of Counseling and Related Educational Programs (provisional)
 Council for Professional Development of the American Home Economics Association
 Council on Social Work Education
 International Association of Counseling Services
 National Accrediting Agency for Clinical Laboratory Sciences
 National Association of Schools of Art and Design
 National Association of Schools of Dance
 National Association of Schools of Music
 National Council for Accreditation of Teacher Education
 National League for Nursing
 North Central Association of Colleges and Schools
 Ohio Board of Nursing Education and Nurse Registration
 Ohio State Department of Public Instruction

The University also holds membership in the following educational organizations:

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

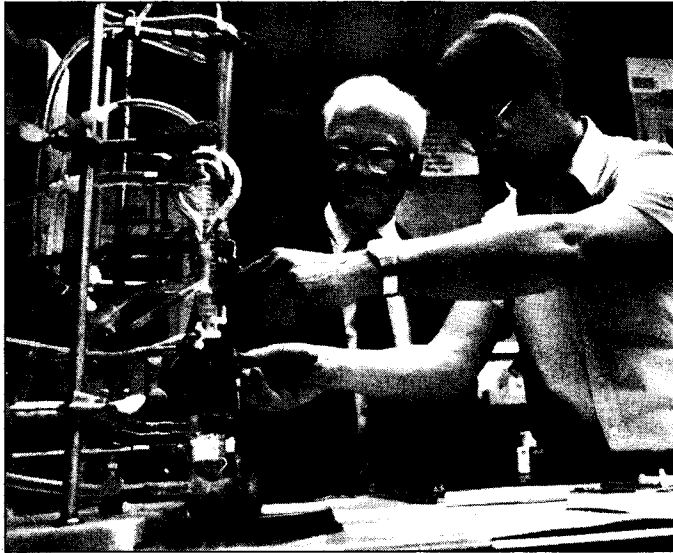
The School of Law is accredited by:

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

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

Academics

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



Mathematics
Statistics
Applied Mathematics
*Mechanical Engineering
Modern Languages
French
Spanish
Music
Accompanying
Composition
Education
Music Education
Music History and Literature
Performance
Theory
Nursing
Philosophy
Physical Education 1-12
Athletic Training for
Sports Medicine
Outdoor Education

Physics
Political Science
*Polymer Engineering
*Polymer Science
*Psychology
*Public Administration and Urban Studies
Public Administration
Urban Planning
School Psychology
*Secondary Education
Multicultural
Sociology
Special Education
Taxation
Technical and Vocational Education
Theatre
Arts Management

SCHOOL OF LAW

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

A separate publication detailing admission requirements and the procedure for applying for one of the School of Law's 135 day-session openings or 65 evening-session openings may be obtained by calling (216) 972-7331 or writing:

**Director of Admissions
School of Law
The University of Akron
Akron, OH 44325-2901**

GRADUATE SCHOOL

The Graduate School offers advanced study to students who wish further education beyond the baccalaureate degree with programs leading to the master's degree as well as the doctoral degree.

A separate publication detailing admission procedures and individual study requirements for graduate work is available from the Graduate School. The *Graduate Bulletin* may be obtained by calling the Graduate School at (216) 972-7663 or writing:

**Director of Admissions
Graduate School
The University of Akron
138 Fir Hill
Akron, OH 44325-2101**

Graduate degree programs are listed below; a dagger (†) indicates programs that offer doctorates only; an asterisk (*) signifies programs that offer both master's and doctoral degrees; the remaining disciplines offer master's degrees only.

Accounting	Family Ecology
Biomedical Engineering	Child Development
Biology	Family and Child Development
Business Administration	Finance
Business/Law Joint Program	Geography
*Chemical Engineering	Geology
*Chemistry	Geology
*Civil Engineering	Earth Science
Communication	Geophysics
Communicative Disorders	Engineering Geology
Speech Pathology	Environmental Geology
Audiology	*Guidance and Counseling
Counseling and Special Education	*History
†Counseling Psychology	Home Economics and Family
Economics	Ecology
Labor and Industrial Relations	Child Development
*Educational Administration and	Child Life
Supervision	Clothing Textiles and Interiors
†Higher Education	Family Development
Educational Foundations	Food Science
*Electrical Engineering	Nutrition/Dietetics
*Elementary Education	International Business
Engineering	Management
Biomedical Engineering	Marketing
English	Mass Media-Communication
English Composition	Mathematical Sciences



BACCALAUREATE PROGRAMS

The University of Akron believes that the student should master basic courses in the humanities, social sciences, and physical sciences and thus supports the idea of the University College concept. A student seeking a baccalaureate

degree and having attained less than 30 college semester credits studies in the University College before transferring to a degree-granting college. Study in the University College develops students' abilities to understand and express ideas effectively and to comprehend the processes involved in accurate thinking. After completing the general studies phase, students are admitted to a degree-granting college, where they then concentrate on courses in their specific academic interests.

Programs are offered in:

Accounting	<i>Home Economics Education</i>
Advertising	<i>Clothing, Textiles and Interiors</i>
Art	<i>Business</i>
<i>Art History</i>	<i>Communication</i>
<i>Ceramics</i>	<i>Theatre Costume</i>
<i>Crafts</i>	Humanities
<i>Drawing</i>	Management
<i>Graphic Design</i>	<i>Industrial Accounting</i>
<i>Metalsmithing</i>	Marketing
<i>Painting</i>	<i>Industrial and Organizational Sales</i>
<i>Photography</i>	<i>International</i>
<i>Printmaking</i>	<i>Marketing Communications</i>
<i>Sculpture</i>	<i>Physical Distribution</i>
<i>Studio Art</i>	<i>Retail Management</i>
Biology	Mathematical Sciences
<i>Botany</i>	<i>Applied Mathematics</i>
<i>Cytotechnology</i>	<i>Computer Science</i>
<i>Ecology</i>	<i>Mathematics</i>
<i>Medical Technology</i>	<i>Statistics</i>
<i>Microbiology</i>	Mechanical Engineering
<i>Physiology</i>	Medical Technology
<i>Pre-Professional</i>	Modern Languages
<i>Pre-Dental</i>	<i>French</i>
<i>Pre-Medicinal</i>	<i>German</i>
<i>Pre-Pharmacy</i>	<i>Russian</i>
<i>Pre-Veterinary</i>	<i>Spanish</i>
<i>Zoology</i>	Music
Business Administration	<i>Accompanying</i>
Chemical Engineering	<i>History and Literature</i>
Chemistry	<i>Jazz Studies</i>
Civil Engineering	<i>Music Education</i>
Classics	<i>Performance</i>
<i>Greek</i>	<i>Theory-Composition</i>
<i>Latin</i>	Natural Sciences
<i>Classical Civilization</i>	<i>Combined BS/MD</i>
Communication	Nursing
<i>Broadcasting</i>	Philosophy
<i>Business and Organizational</i>	Physical Education and Health
<i>Communication and Rhetoric</i>	Education
<i>Corporate Video</i>	<i>Health Education</i>
<i>Mass Media</i>	<i>Outdoor Education</i>
Communicative Disorders	<i>Athletic Training for Sports Medicine</i>
(Speech Pathology and Audiology)	Physics
Computer Science	<i>Applied Physics/Engineering</i>
<i>Business</i>	<i>Biophysics</i>
<i>Mathematics</i>	<i>Chemical</i>
Construction Technology (2 + 3)	<i>Computer</i>
Cytotechnology	<i>Geophysics</i>
Dance	<i>Physics/Astrophysics/Astronomy</i>
Economics	<i>Polymer</i>
<i>Labor Economics</i>	Political Science
Electrical Engineering	<i>Criminal Justice</i>
<i>Computer Engineering</i>	<i>Government Service</i>
Elementary Education	<i>International Service</i>
<i>Dual Certification</i>	<i>Pre-Law</i>
<i>Kindergarten</i>	<i>Public Policy Management</i>
<i>Prekindergarten</i>	Psychology
English	Secondary Education (all fields)
Finance	Social Sciences
Geography	Social Work
<i>Geography/Cartography</i>	Sociology
Geology	<i>Anthropology</i>
<i>Engineering Geology</i>	<i>Corrections</i>
<i>Geophysics</i>	<i>Law Enforcement</i>
History	Special Education
Home Economics and Family	<i>Developmentally Handicapped</i>
<i>Ecology</i>	<i>Multihandicapped</i>
<i>Dietetics</i>	<i>Orthopedically Handicapped</i>
<i>CUP</i>	<i>Severe Behavior Handicapped</i>
<i>Traditional</i>	<i>Specific Learning Disabled</i>
<i>Family and Child Development</i>	Speech Pathology and Audiology
<i>Child Development</i>	(see Communicative Disorders)
<i>Child Development:</i>	Technical Education
<i>Prekindergarten Certification</i>	Theatre
<i>Child-Life Specialist</i>	<i>Acting</i>
<i>Family Development</i>	<i>Design/Technology</i>
<i>Food Science</i>	<i>Musical Theatre</i>
<i>Business</i>	Theatre Arts
<i>Food Science/Product Development</i>	

ASSOCIATE PROGRAMS

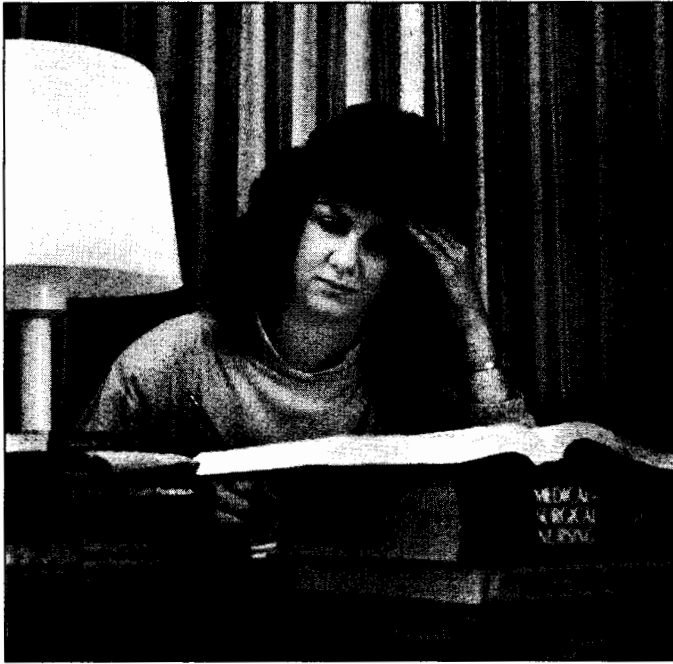
In this fast-paced age of technological development, a need has grown for a person trained specifically for work in the semiprofessional, technical, and highly skilled professions. Most critically needed are laboratory technicians, health technicians, engineering assistants, sales people, supervisors,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

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

Certificate Programs

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

Afro-American Studies	Latin American Studies
Aging Services	Legal Assisting
Alcohol Services Aide	Library Studies
Applied Politics	Linguistic Studies
Canadian Studies	Manual Communication
Cartographic Specialization	Mid-Careers in Urban Studies
Child-Care Worker	Office Administration
Commercial Photography	Peace Studies
Composition	Personal Computer Repair (Wayne College)
Computer Physics	Planning
Computer Science	Professional Communication
Computer Software for Business	Programming Skills Enrichment
Criminal Justice	Public Policy
Criminal Justice/Security Emphasis	Real Estate
Divorce Mediation	Small Business Management
Drafting Technology	Soviet Area Studies
Environmental Health	Supervision and Management
Environmental Studies	Surgeon's Assistant
Fire Protection Technology	Surgical Technologist
Gerontology	Teaching English as a Second Language
Higher Education	Transportation Studies
Home-based Intervention Therapy	Travel and Tourism
Hospitality Management	Volunteer Program Management
Interior Design	Women's Studies



University Honors Program

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

Distinguished Student Program

The Distinguished Student Program for associate degree students in the Community and Technical College encourages and assists exceptionally talented students to achieve academic excellence. It supports the college's career programs that enable students to prepare for their occupational goals.

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

Cooperative Education Programs

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

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

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

Participating students are recognized as full-time students at The University of Akron when working on an approved cooperative education field assignment and when complying with the rules and regulations of the cooperative education programs.

Student Volunteer Programs

Student volunteer programs, operated by Cooperative Education, seek to recruit and refer students for volunteer positions with social service and nonprofit agencies in the Akron and Northeast Ohio area.

Like Cooperative Education, student volunteer programs offer students a wealth of experience — experience which will enable the student to discover the reality of American life in ways which cannot be as graphically communicated in the classroom. In addition, the rendering of public service by student volunteers will help them: develop an understanding of professional requirements and expectations; regard community service as an integral part of their preparation for the role as truly educated citizens; enhance their educational experiences; give concrete form to the abstract learning of the college curriculum by applying it to immediate human need; and know that a truly successful life must include helping others.

Students who are in good academic standing may participate in the program's volunteer activities. Students are also expected to respect the rules and regulations of their volunteer agency.



International Programs — Live and Learn Abroad

The University of Akron administers Study Abroad programs in Australia, Belgium, China, Czechoslovakia, England, France, Germany, Israel, Italy, Japan, Korea, Mexico, Puerto Rico, Singapore and Turkey. Programs are open to all students, regardless of major, language training or financial means. All courses offered abroad count as elective credit towards graduation from The University of Akron. Some courses are linked into Akron's language and general studies requirements. Credits toward a major may be completed abroad with the consent of a department. Instruction at all program sites (except Germany) is in English. Programs are offered annually at the same site for a semester or an academic year.

Financial aid is available for all programs. The cost of some programs, including international transportation, are at or below the average residential cost of attending The University of Akron. If a student can afford to attend The University of Akron, that student can financially afford to participate in one of its study abroad programs.

The purpose of studying abroad is to broaden the students' horizons, enrich their academic background, enhance self-confidence and self-awareness, and in general heighten cross-cultural understanding and sensitivity.

A scholarship under the College Ambassador Program in the amount of \$1,000 is available for some programs. The College Ambassador is expected to gather information about the host country and share this upon return to The University of Akron, both on and off campus.

International internship is designed to provide an international education/work experience to Akron students who want to enhance their academic and career preparation through working side by side with people of other nations.

Students who are about to graduate should inquire about scholarship programs abroad, i.e., Fulbright, Marshall, Rhodes. Call the Office of International Programs.

SUMMER SESSIONS

The University's Summer Sessions provide educational opportunities for the student who wishes to attend college classes over the summer. Summer Sessions include work toward associate, baccalaureate, and advanced degrees as well as additional education in students' chosen professions.

OFF-CAMPUS PROGRAMS

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

THE UNIVERSITY OF AKRON — WAYNE COLLEGE

To meet the needs of citizens in Wayne, Holmes, and Medina counties, The University of Akron's Wayne College opened its doors in 1972. Four 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 of Arts or Sciences; Associate in Applied Business in business management technology and office administration; Associate in Applied Science in microprocessor service technology or social services technology.

The Campus

During recent years, the University campus has undergone many major changes. In 1951, the University's 13 acres encompassed only 10 buildings. Currently, the main campus covers 166 acres, and includes 80 buildings, with plans to renovate and build additional academic, recreational, and parking facilities. The campus is illuminated at night and security personnel patrol the area hourly.



LOCATION

The University is situated in a large metropolitan area. The campus, although centrally located within the city, is set apart from the downtown area. Students have easy access to retail outlets, transportation, and churches. Akron is easily reached by automobile from major national east-west routes (Interstates 80, 90, 76, and the Ohio Turnpike), and north-south routes (Interstates 71 and 77), all of which link Akron to the surrounding states and regions. The University itself is located between East Buchtel Avenue and Carroll Street in the downtown area. For airline passengers, limousine service from the Cleveland-Hopkins International Airport and the Akron-Canton Airport, south of Akron, is available.

BUILDINGS

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

Admissions Building. This office is located at 381 Buchtel Common. The Office of Admissions assists students with applications, requirements, and procedures for undergraduate, postbaccalaureate, guest, transfer, auditing, or special student status.

Auburn Science and Engineering Center. Named for Norman P. Auburn, 10th president of the University, this complex is one of the largest academic buildings in the state. The center houses the College of Engineering, the Department of Biology, and the scientific and engineering holdings of the University library.

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

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

Bierce Library. Named for Gen. Lucius V. Bierce, an Akron mayor, lawyer, historian, state senator, philosopher, philanthropist, and soldier, the building opened in spring 1973. In addition to the book and periodical collections, the facility houses archival and audio-visual materials, maps, and microforms. The University library, including the Science and Technology Department, has holdings of more than 2.8 million items.

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

Buckingham Center for Continuing Education. The center was renovated in 1979 at a cost of \$2.8 million. The building houses offices for the executive dean of Continuing Education, Public Services and Outreach, the Adult Resource Center, the Office for Noncredit Courses, the Long Term Care Education & Training Center, the Law School Clinical Program, as well as a lecture hall and general classrooms.

Business Administration Building. A new \$9.1 million business administration building, located at 259 South Broadway, is scheduled for a spring 1991 completion. This structure will consolidate office, classroom, and laboratory facilities for the dean of the College of Business Administration, the School of Accountancy, and the departments of finance, marketing, and management.

Carroll Hall. Adjacent to the Gardner Student Center, Carroll Hall houses classrooms, laboratories, and offices for the departments of counseling and special education, geography, developmental programs, and computer-based education, as well as the University's media services, electronic systems, and the Learning Resources Center.

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

Computer Center. Purchased and renovated in 1981 for \$1.3 million, this building at 185 Carroll Street houses the University's computer center offices, main computer, and workrooms, as well as student and faculty keypunch areas and time-sharing terminals.

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

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

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

Exchange Building. This recently acquired building at 222 East Exchange Street houses the School of Social Work.

Fir Hill Center. This recently remodeled building, north of East Buchtel Avenue at Fir Hill, houses the offices of the Associate Vice President for Research and Graduate Studies, the dean of Graduate Studies, and Research Services and Sponsored Programs.

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

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

Forge Building. This building at 171 South Forge Street houses the College of Engineering's Construction Technology Program, including offices and computer lab and classroom space.

Gallucci Hall. This building at 200 East Exchange Street, formerly a Holiday Inn, is a coed residence hall. The north wing houses the Department of Urban Studies, the Center for Urban Studies, and the Department of Hospitality Management.

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

Gladwin Hall. Housing the College of Nursing and allied health and biology laboratories, this building was named in honor of distinguished alumna Mary E. Gladwin (1887), who rendered unparalleled service as a war nurse. The \$10 million complex opened in 1979, adjacent to Knight Chemical Laboratory. The facility includes a multipurpose nursing laboratory, a simulated 13-bed hospital containing a surgical-labor delivery suite, a nursery suite, and a well-patient clinic.

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

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

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

Knight Chemical Laboratory. This \$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 1909. Opened in 1979, the building features numerous innovative laboratories with the latest, most sophisticated safety equipment along with classrooms and faculty and administrative offices.

Kolbe Hall. Identified by its colonnade arch, this complex was named for the first president of the Municipal University of Akron, Parke R. Kolbe. It houses the University Theatre, and the Center for Community and Public Television, classrooms and interim office space for the Department of Civil Engineering (during the 1991/92 Auburn Science and Engineering Center Phase I Rehabilitation Project).

Leigh Hall. Named in honor of Warren W. Leigh, first dean of the College of Business Administration, the facility on Buchtel Common currently houses the John S. Knight Auditorium, and interim space for the Dean of Engineering, the Engineering Co-op office and and Department of Mechanical Engineering offices (during the 1991/92 Auburn Science and Engineering Center Phase I Rehabilitation Project).

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 200,000-volume law library, classrooms, moot courtroom, appellate-review office, seminar rooms, and faculty offices. A \$2.8 million addition provides additional library and support space. The center stands at the corner of University Avenue and Wolf Ledges Parkway.

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 JAR. It contains offices of the Department of Health and Physical Education, a main gymnasium, a gymnastics area, a combatives area, a motor learning lab, a human performance lab, an athletic training for sports medicine lab, a weight training and fitness center, a swimming pool, the intramural sports office, and classrooms.

North Hall. Located on South Forge Street, this building will house, on a temporary basis, all faculty offices for the School of Communication and supplemental service space for the Police/Security Department.

Ocasek Natatorium. The six-million dollar natatorium, completed in 1988, is a 70,000 gross square foot structure that houses an Olympic-size swimming pool with adjacent spectator seating area, and locker rooms and showers. The center also houses nine racquetball courts as well as weight room facilities. The natatorium is named for former Ohio State Senator Oliver Ocasek.

Olin Hall. Named in honor of Professor Oscar E. Olin and Mr. Charles Olin, this facility was completed in May 1975. The hall houses the dean of Buchtel College of Arts and Sciences and the following departments and institutes: classics, economics, English, general studies, history, modern languages, political science, philosophy, sociology, and English Language Institute. The complex is at the corner of Buchtel Common and South Union Street.

100 Lincoln Street Building (Industrial Incubator). Plans are currently underway to relocate the purchasing department to this building, at 100 Lincoln Street, by fall 1991.

143 Union Street Building (Newman Center). This recently purchased building, located at 143 South Union Street, provides administrative office space for the University auditor, budget director, the payroll department, and a portion of the Computer Center.



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

Physical Facilities Operations Center. This building at 146 Hill Street is adjacent to E. J. Thomas Hall and houses physical facilities offices and craft shops, the central heating and cooling distribution center, and the Campus Police/Security Department.

Polymer Science Building. Construction of the new \$17 million polymer science building was completed in the spring of 1991. This two-tower structure of steel, concrete, and glass, located at 170 University Avenue, houses offices for the dean of the College of Polymer Science and Polymer Engineering and the American Chemical Society. The facility features a 200-seat lecture hall, offices, classrooms, and research laboratories for the Institute and Department of Polymer Science.

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

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

Schrank Hall. Named for Harry P. Schrank, long-time member and chairman of UA's Board of Trustees, this complex, which adjoins Auburn Science and Engineering Center, is composed of two academic structures and a parking deck. Schrank Hall North contains offices and classroom space. Schrank Hall South provides facilities for the School 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 Hezleton Simmons, University president from 1933 to 1951, this hall houses the University Counseling and Testing Center, the Department of Psychology, and Public Services Technology offices and laboratories. The Institute for Life-Span Development and Gerontology and the History of American Psychology Archives also occupy a portion of the building. A student interested in employment counseling and assistance will find the Office of Career Planning and Placement in this facility.

Spicer Hall. This major student contact building, renovated in 1975, houses the registrar's office, academic advising services, the Office of Student Financial Aid and Employment, University College, the Office of Cooperative Education, the parking systems office and offices for the University controller, accounts payable and receivable, and the state examiner.

The University Club of Akron. Located at 105 Fir Hill Street, The University Club has recently changed from a private club serving dues-paying members to a University-operated restaurant and banquet center. The table service restaurant is open for lunch between 11:30 a.m. and 2 p.m. Business and departmental functions, banquets, receptions, and parties can be scheduled during the hours of 7:30 a.m. to noon. The Office of Alumni Relations and the Department of Development as well as offices for the division of Institutional Advancement are located on the upper floors of the building.

277 Broadway Street Building (Blakemore-Rosen). This building was recently purchased to provide administrative space for the Vice President for Human Resources, academic and staff personnel, affirmative action, the benefits office, and the Department of University Communications.

West Hall. This renovated structure on Wolf Ledges Parkway next to the McDowell Law Center houses the School of Communicative Disorders and the outpatient Speech and Hearing Center as well as classrooms and law school offices.

Whitby Hall. Named for G. Stafford Whitby, a pioneer in the development of polymer science, this building was opened in fall 1975. Current plans indicate that chemical engineering and the chemistry department will share space in this facility.

Zook Hall. Named to honor George F. Zook, president of the University from 1925 to 1933, this Buchtel Common 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, an educational media lab, the Center for Economic Education, and the Student Teaching Office.

FACILITIES AND EQUIPMENT

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

Buchtel College of Arts and Sciences

The **Department of Biology** houses greenhouses, controlled environment chambers, a molecular biology research center, modern laboratories, and equipment, including advanced light microscopes (differential interference contrast, fluorescence), electron microscope (scanning and transmission), scintillation counters, ultracentrifuges, DNA sequencing apparatus, and physiographs; a new research building is under construction; vehicles and boats are available for fieldwork.

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 1,100 items, including chemicals, glassware, and apparatus.

The **Department of English** in Olin Hall has modern office space for faculty and graduate students. The Thackberry Room located in the department is a reference library for faculty and graduate students and holds bibliographies, indexes, and reference works relevant to all specialties taught in the department. Graduate seminars are held in the department's own seminar room near faculty offices.

The **Department of Geography** houses a modern cartographic laboratory, with adjoining darkroom, equipment rooms, and a research collection of maps, aerial photos, and periodicals. Major equipment includes map compilation projectors, computer workstations, digital plotting devices, process film camera, vacuum frame, stereoplotters, and typesetting equipment.



The **Department of Geology** has modern instrumentation for field and laboratory studies. Among the equipment are an automated electron microprobe, automated x-ray diffraction system, atomic absorption spectrometer, ion chromatograph, coal and sulfur analyzers, oxygen bomb calorimeter, gravimeter, resistivity gear, refraction seismograph, magnetometers, image analyzer, cathodoluminescope, microcomputer laboratory with printers, plotters, and a digitizer, core laboratory, research microscopes, a well-equipped darkroom, rock saws, thin section equipment, portable rock corer, and three four-wheel-drive vehicles.

The **Department of History** in Olin Hall is housed in a modern office suite with space for graduate assistants as well as professors. The Clara G. Roe Seminar Room is used for graduate seminars.

The **Department of Mathematical Sciences** is located on the upper floors of Ayer Hall. Students of mathematics, statistics, and computer science have access to a wide variety of computing facilities, languages, and software in laboratories maintained in and by the department.

Two of the labs provide access to University computers which are located in the Computer Center. These include an IBM 4381 dual processor machine which runs VM/SP Release 5 with HPO Release 5, IBM's interactive operating system for mainframes; an IBM 3090 Model 200 with a vector facility which runs MVS/XA, a batch operating system; and a DEC VAX 11/785 which runs ULTRIX, Digital Equipment's version of UNIX. One of these labs has Gateway 386 PCs available and the other has 12 SUN workstations which run UNIX. These labs are specifically maintained for undergraduate students. The IBM 4381 and the VAX are also accessible by phone.

The department also maintains a graduate scientific computation lab, in which SUN workstations are installed, and a statistical consulting laboratory, staffed by faculty and graduate students in statistics.

All of these facilities are interconnected and connected to universities, research facilities, and industries in the outside world via BITNET and internet. Thus, it is possible to send mail and transfer files not only on campus, but around the world. Persons with a user identification at that site may log on to the CRAY located at Ohio State or on to any one of many other computers.

In addition to this variety of computers and operating systems, the student has available the programming languages Pascal, FORTRAN, PL/1, APL, LISP, ICON, COBOL, and C. Major software packages in use include SAS, SPSS, and BMDP for statistical analysis; IMSL, a FORTRAN accessible subroutine library; MAC-SYMA, for symbolic computation; and Model 204, INGRES, SQL/DS with QMF (Query Management Facility) and MDBS III for database management.

A computer lab containing MacIntosh, Apple IIgs, and IBM PC microcomputers without any connection to the Computer Center is available for statistics instruction and for literacy courses which use Apple Works, and for BASIC language programming courses.

The proximity of the faculty offices to the computer laboratories encourages regular interaction between students and faculty. Staff members are always available to assist and guide students. A friendly, informal, helpful atmosphere makes the Department of Mathematical Sciences an enjoyable place to learn and to gain practical experience.

A most important resource of The **Department of Modern Languages** is the language laboratory in Olin Hall. The language laboratory schedules working sessions for all beginning and some advanced language courses as an integral part of the course, as well as for individual and voluntary student study time.

The **Department of Physics** is housed in Ayer Hall with space and facilities for research and instruction. The laboratories include experimental facilities for electron tunneling and infrared spectroscopy, pulsed, and continuous wave NMR, and Mossbauer spectroscopy; scanning probe microscopy magnetic susceptibility and Shubnikov-deHaas measurements. The experimental projects in progress include studies in surface physics and thin films, diffusion measurements in polymers, molecular spectroscopy, solid state physics, and computer-assisted instruction. Theoretical projects in progress include critical phenomena and phase transitions, renormalization group, supersymmetry, polymer physics, and solid state physics. Studies of physical properties of polymeric materials utilize the extensive facilities of the College of Polymer Science and Polymer Engineering.

In the **Department of Political Science**, the Survey Research Center supervises a computer-assisted telephone interviewing laboratory available to the campus research community. The laboratory consists of 24 IBM PS/2 microcomputers connected via a network to a variety of system servers. Each interviewer station is acoustically insulated from other stations and has specialized telephone and automatic dialing equipment. The survey facility is used for grant and contract research covering national, state, and local studies. When not required for survey projects, the computer network is used for a variety of classroom exercises and student research projects.

The **Department of Psychology** laboratory resources include undergraduate laboratories and advanced computer controlled laboratories for the study of human information processing (e.g., signal detection, automobile driving, motion sickness, attention, concept formation, perceptual style, laterality differences, and memory). Research areas for the study of small-group behavior and a psychology clinic complete with video-tape capabilities for the study of counseling process and outcome are also available. The department owns several IBM-AT (286) and 386 based PCs for on-line collection of data and control of experiments; the perceptual laboratory includes a G & W eye scan and eye track apparatus. The department is associated with the Institute for Life-Span Development and Gerontology, including emphasis in adult development, gerontology, and women's studies.

The **Department of Sociology** facilities include research laboratories used for funded research projects and a complete micro-computer laboratory for all graduate students. The department shares a computer facility for all students in Olin Hall which includes micro-computers and terminals directly linked to the University's mainframe computers. In addition, a computer-assisted telephone interviewing (CATI) system laboratory is used for student training in survey research. The anthropology laboratories contain hominid fossil casts, archaeological collections, and a variety of equipment used in archaeological field research projects.

The **Department of Urban Studies** houses a microcomputer laboratory equipped with 8 IBM 286 personal computers. Students are trained in software useful for public administration, policy analysis and evaluation, and urban planning. Standard microcomputer statistical programs, such as SPSS-PC, are also available. A multiplex also provides individual machine access to mainframe computations as well.

Community and Technical College

Most offices and specialized laboratories of the Community and Technical College are located in Schrank Hall North and Schrank Hall South. However, the college also uses portions of Mary Gladwin Hall, Gallucci Hall, Folk Hall, and Simmons Hall. In addition, Community and Technical College classes are frequently scheduled in classrooms all over the University campus.

The **Business Technology Division** has many extensive laboratory facilities in Schrank Hall North. The **Computer Programming** area has a cluster of well-equipped personal computer labs, plus connections to the University mainframe computer. The **Office Administration** program has labs dedicated to word processing, typing, business machines, shorthand/tape dictation, and information

management. The **Hospitality Management** program is located in Gallucci Hall where a complete restaurant (with kitchen and a 120-seat dining room) serves food to the general public as part of its curricula in food service management and culinary arts.

The **Engineering and Science Technology Division** is located primarily in Schrank Hall South. Many computer related laboratories provide hands-on experience for students. The **Drafting and Computer Drafting Technology** program maintains two drafting laboratories and a new Computer Aided Drafting laboratory. The Computer Aided Drafting laboratory is equipped with 30 Hewlett Packard Vectra QS/16 microcomputer workstations utilizing AutoCAD software. The **Electronic Technology** program provides a circuits laboratory, electronics laboratory, control system laboratory, digital circuits, and system laboratory equipped with personal computers and a facility for fabricating printed circuit boards. The **Mechanical Technology** program maintains two drafting laboratories, a fluids and thermal laboratory, a machine shop for machine tool fabrication, a computer graphics and CNC programming facility, a CNC machining laboratory, a strength of materials laboratory, and an engine test facility. **Manufacturing Technology** labs include equipment for precision inspection and the study of robotics. A variety of surveying instruments including new electronic instruments and computer facilities for problem solutions are available for use in the **Surveying and Construction Technology** program. In addition, the division has laboratories for physics courses in mechanics, electricity, heat, light, and sound.

The **Allied Health Technology Division** is located in Mary Gladwin Hall where laboratories are dedicated to **Medical Assisting, Respiratory Therapy, Surgical Assisting, and Histologic Technology.**

The **Division of Associate Studies** is located in Schrank Hall South. Its **Commercial Art** program, however, has a wide range of laboratories in Folk Hall equipped with computers, photographic equipment, and other art-related equipment.

The **Public Service Technology Division** is located primarily in Simmons Hall where its **Criminal Justice** lab is utilized. The **Interpreting for the Deaf** program makes use of labs elsewhere on campus, and the **Child Development** program interfaces with the University Nursery Center in East Hall.

College of Education

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

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

The **Department of Physical and Health Education** prepares students for careers in teaching, coaching, related recreational fields, and related health fields. There are laboratories for the study of exercise physiology, motor behavior, teaching skills (microteaching), and computer utilization in physical and health education. The department has access to the James A. Rhodes Health and Physical Education Building (classrooms, the main gym, an indoor running track, and four teaching station areas), Memorial Hall (classrooms, as well as large and small gyms), Ocasek Natatorium (a classroom, an Olympic-size pool, nine racquetball courts, and a weight room), and Lee Jackson Field (fourteen tennis courts, an outdoor running track, and two softball fields). Each of the foregoing facilities and resources is used in the presentation of our variety of academic programs.

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

The **Center for Economic Education** serves as an instructional site for preservice teachers, college faculty, and area schools. Workshops, seminars, materials, and visiting experts provide in-service training in economic issues. An extensive inventory of educational media includes books, periodicals, lesson outlines, games, films, videotapes, and computer software which address economic education.

The **Department of Counseling and Special Education** operates the Clinic for Child Study and Family Therapy, housed in this department, offers support and therapy for the public while providing a clinical teaching and research setting for University students and faculty. Several therapy and counseling rooms offer viewing from an adjoining room for practicum students' supervision and feedback.

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

College of Engineering

The **College of Engineering** has five departments: biomedical engineering, chemical engineering, civil engineering, electrical engineering, and mechanical engineering, located in the Auburn Science and Engineering Center, Olson Research Center, and Simmons Hall. Extensive instrumentation, computers, and specialized equipment support hands-on experimentation for undergraduates as well as fundamental and applied research in computational mechanics, control, theory, chemical processing, and biomedical engineering. The college maintains a centralized engineering computer graphics facility which supports specialized computer graphics and a centralized machine shop which provides fabrication support for both undergraduate and graduate projects.

The **Department of Biomedical Engineering** has 9 major laboratories for instructional and research use. The neurophysiology laboratory for research of the auditory system is equipped with an semi-anechoic room, sound synthesizers, and state of the art data acquisition and analysis equipment. The biomechanics laboratory is equipped with anemometers and materials testing equipment including Instron testing machines. The musculoskeletal laboratory includes frequency analysis equipment and a MTS testing system. The biostereometrics laboratory is equipped to perform spatial analysis using three-dimensional sensing technology which include a Kern MAPS 200 Digitizing System, a Qume QVT-211X Graphics Terminal. The ocular motor control laboratory is equipped for infrared oculographic eye movement recording. The gait analysis laboratory contains a 40' x 6' raised walkway with imbedded force plates and a VICON three dimensional motion analysis system. The image analysis laboratory contains a Technicare 2020 CT system and supporting equipment. The vascular dynamics laboratory provides facilities to analyze blood flow using Laser Doppler anemometry and Doppler ultrasound techniques. The biomedical instrumentation laboratory is equipped with continuous wave and Doppler ultrasonic equipment, surface temperature devices, and PC computers equipped with data acquisition boards.

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

The Process Research and Development laboratories have five micropilot plants for diverse chemical process applications, element analyzer, sulfur analyzer, automated chlorine analyzer, coulter particle counter, ash fusion analyzer, TGA/DSC, oxygen bomb calorimeter, Tilt-A-Mix reactor, FTIR, CDS Automated Micropilot Plant, ICP, and four fermenter systems.

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

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

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

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

In the hydraulics laboratory a 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 off-shore structures; the mobile bed tank is used to demonstrate erosion and sediment deposition patterns around bridges, piers, and culvert and storm drain outlets.

In the soil mechanics and foundation engineering lab, a student learns how to analyze soil by a variety of tests and equipment to determine shear strength characteristics, compaction 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.

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

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

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

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

Digital Electronics Laboratory: Several Intel and Hewlett-Packard microcomputer development systems are available for digital prototype design, emulation, and debugging work.

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

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

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

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

The **Department of Mechanical Engineering** maintains laboratories in the Auburn Science and Engineering Center and in Simmons Hall for undergraduate instruction and graduate instruction and research. These include:

Thermal and Fluid Science Laboratory with internal combustion engines, a supersonic wind tunnel and a subsonic wind tunnel.

Heat Transfer Laboratory with thermal conductivity, radiation and temperature measurement systems, a gas laser and a spectrum of heat exchangers.

Mechanical Measurements Laboratory with a complete complement of transducers, calibration equipment and standards, signal conditioners, analog recording devices and microprocessor-based digital data acquisition systems.

Materials Testing Laboratory with computer controlled servohydraulic structural testing machine and a uniaxial universal testing machine for performing static, quasi-static, cyclic and dynamic tests on a spectrum of engineering materials, and several types of hardness testing equipment.

Experimental Mechanics Laboratory with photoelastic strain measuring equipment and associated facilities, coupled with a complete range of strain gage instrumentation for both static and dynamic measurements.

Mechanical Design Laboratory with several major software packages for computer-aided design connected to the engineering computer graphics facility of the University.

System Dynamics and Controls Laboratory comprising of several microprocessors, analog computers and digital control, and equipment for process control and robotics.

Vibration and Acoustics Laboratory with electro-mechanical shakers, sound pressure level instrumentation and frequency spectrum analyzers for modal analysis.

Metallography and Failure Analysis Laboratory with a complete set of metallographic instrumentation for microstructural analysis of both conventional and advanced engineering materials, and electron microscopes for analysis of failure.

College of Fine and Applied Arts

The **School of Art** provides students with a solid background in art history supported by a collection of more than 50,000 slides and an auditorium classroom setting. The department's studios and classrooms are housed in a contemporary 67,000 square foot building which features a ceramics studio with pottery wheels and kilns; a metalsmithing/jewelry laboratory offering casting, fabricating, and anodizing equipment; photographic tools and darkrooms; weaving looms; a printmaking workshop; and a sculpture shop equipped for construction with wood, metal, clay, plaster, stone, and foundry work including bronze and aluminum. The graphic design/commercial art program has student labs complete with traditional metal type, state-of-the-art computer typesetting systems,

Art-O-Graph enlargers, typesetters, plate makers, black-and-white and color stat cameras, advertising photo studios and color proof systems. The computer graphics area provides visual computer experience using Macintosh Plus, three dimensional modeling, animation, and advanced paint systems in two complete lab settings. Emily Davis Gallery, Perkins Gallery, and the Guzzetta Hall Atrium Gallery display staff-curated national and regional exhibitions, as well as student and faculty work, on a continuous basis. The University Galleries initiate exhibitions as well as host traveling shows. The art gallery maintains a program of catalog publications.

The **School of Communication** features a television classroom/studio equipped with color cameras, and a wide complement of supporting audio and video equipment including graphics generators and computer assisted editing. Portable video and audio equipment is available for location use. There is an audio recording facility with multitrack capability in Guzzetta Recital Hall. Radio facilities, located in WZIP-FM, include control consoles, turntables, tape machines, microphones, production studios, and newsrooms. A multimedia production/editing laboratory-classroom supports class instruction. News, publications, and other writing classes have access to a typing lab and a Macintosh computer laboratory with complete desktop publishing layout, graphics, and print capabilities. The school works in cooperation with local professional agencies in a strong internship program.

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

The **School of Dance** is located in the Ballet Center. The activities in the building include the undergraduate dance programs for the B.A. and B.F.A. degrees, the Dance Institute for students ages 8-18, continuing education for adults, and the Ohio Ballet. There are five studios, each with mirrors, barres, sprung marley floors, and pianos. There is also an athletic training room with a graduate assistant and a jacuzzi. All offices for the dance faculty, staff, and Ohio Ballet are located within the Ballet Center. Annual performances are held in the Ballet Center Stage Studio Theatre, the intimate University Theatre, (Kolbe Hall), and E.J. Thomas Performing Arts Hall.

The **School of Home Economics and Family Ecology** has food and nutrition laboratories, textile conservation and clothing laboratories, an interior design and drafting laboratory, and a multipurpose lecture/laboratory area. These specially equipped areas are designed for demonstration and study in the areas of home management, equipment, home computers, consumer education, housing, interiors, home furnishings, and community involvement. Additionally, the school maintains an executive conference room, and a graduate and teaching assistants' office. In cooperation with the College of Education, the school also operates and maintains a completely equipped nursery school facility for the study of child development and for teacher education.

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

The **School of Social Work** offers CSWE accredited 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 students.

The **School of Theatre Arts** utilizes three different performing spaces to present its annual season of four to six productions. Guzzetta Hall 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 theatre productions as is the multipurpose E.J. Thomas Performing Arts Hall.

College of Nursing

The **College of Nursing**, housed in Mary Gladwin Hall, has a multipurpose Learning Resource Center where nursing practice is simulated through organized and independent activities. Typical equipment found in hospitals, health agencies, and the home are available for students to practice simple and complex nursing techniques. The laboratory features a hospital setting, study carrels, computers, and interactive video. The Center for Nursing, which is located nearby, serves as a practice site for students.

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

College of Polymer Science and Polymer Engineering

The facilities of the **Department of Polymer Science** and the **Institute of Polymer Science** support fundamental and applied research in polymer chemistry, physics, and many aspects of polymer behavior. They include extensive laboratories for polymer synthetic chemistry and for the characterization of macromolecules and polymer morphology. A minipilot plant facility is available to provide larger quantities of experimental polymers for studies of their rheology and mechanical properties. A nuclear magnetic resonance laboratory is maintained with several high resolution instruments supervised by professional staff. The applied research section of the Institute of Polymer Science operates a variety of analytical and compounding/processing laboratories to serve the needs of industry and government agencies for a reliable source of polymer materials and data. The total value of major instrumentation and equipment housed in the polymer science laboratories exceeds \$5 million.

The **Department of Polymer Engineering** and **Institute of Polymer Engineering** maintain a broad based range of processing, structural, and rheological/mechanical characterization apparatus. Processing facilities include unique blending/compounding facilities with various twin screw extruders and internal mixers including flow visualization capability; five screw extrusion lines with single/multiple bubble tubular film and cast film extrusion capability as well as a biaxial film stretcher; molding facilities including screw injection molding capability of three machines, blow molding, plug assist thermoforming and compression molding with composites capability. The Institute of Polymer Engineering is the home of the Rotational Molding Development Center, established by the Association of Rotational Molders in 1987, and has state-of-the-art rotational molding apparatus. Characterization capability includes scanning and transmission electron microscopy, X-ray diffraction (including a rotating anode X-ray generator), Fourier transform infrared, small angle light scattering, optical microscopy and retardation, radiography, differential scanning calorimetry, thermogravimetric analysis, dielectric thermal analysis, and surface profiling, rheological and mechanical testing, including elongational flow, rotational and capillary shear rheometry, dynamic mechanical, tensile, and impact testing.

Computer Center

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

The center is equipped with an IBM 3090/200 Dyadic processor for academic and general administrative use. The academic community uses a loosely coupled IBM 4381-R14 and an IBM 3090-200. The IBM runs the VM-HPO operating system, and the IBM 3090-200 runs the MVS-XA operating system for both academic and administrative computing. A variety of peripheral equipment is attached to these computers including magnetic tape drives, disk drives, and remote terminals. A DEC VAX 11/785 is installed to aid research conducted in the computer science and engineering fields. The IBM 3090-200 has one Vector Processor for local supercomputer applications. The VAX, IBM 4381-R14, and the IBM 3090-200 have links to the Cray supercomputer located in Columbus, Ohio. A Scantron Mark Sense Reader creates computer-readable tapes from mark sense forms providing fast and reliable data entry for test scoring services and surveys.

The center also has widely used computer languages (e.g., FORTRAN C, COBOL, PL/1, BASIC, PASCAL, SAS, SPSS, APL, as well as some lesser known, e.g., WATFIV, ASSIST, SIMSCRIPT).

Plotting may be done using either a CalComp Drawingmaster or CalComp plotter. There is a variety of personal computers and terminal clusters that interact with the IBM-VM/CMS online system.

The Academic Systems Section assists the student and faculty member in making effective use of the Computer Center. It provides consultation and help in preparing usable computer programs and in analysis and solution of problems where the use of the computer is indicated. It will also acquire and install prepackaged programs for specific departments.



SECTION **TWO**

**Student services
and activities**

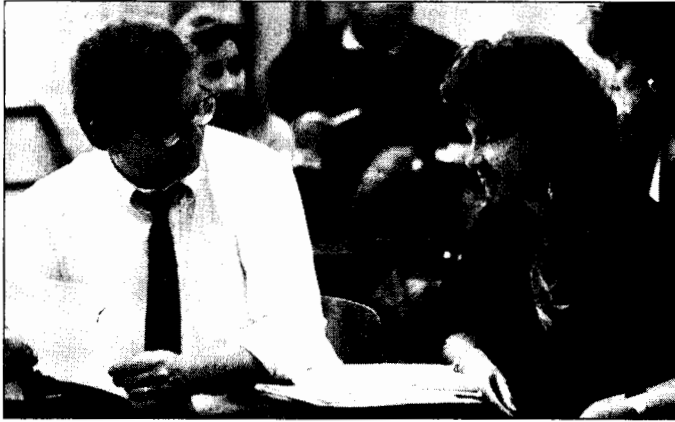
F A C T S

The first:

- football coach of the University (then Buchtel College) was John W. Heleman (of Heisman Trophy fame)
- students to arrive on the Buchtel College campus were brothers Charlie and Fred Parmenter of Vermont in September 1872.
- black graduate of the University was Emmer M. Lancaster in 1921.
- intercollegiate baseball victory for Buchtel College was a 38-20 win over Wooster in 1873.
- tuition charged by Buchtel College was \$30 per year in 1872.

Student Services

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



STUDENT DEVELOPMENT

Concerned with each student's University experience outside the classroom, the Office of Student Development provides a wide range of resources, programs, and professional consulting to assist students with their overall growth as individuals and to assist them in becoming involved and accepting responsibility within campus organizations.

The Office of Student Development also serves as the central coordination point for major campus events such as Homecoming, May Day, Parents' and Family Day, the All-Campus Leadership Conference, and the International Festival.

The Office of Student Development, located in Gardner Student Center 104, 972-7021, has current information about all registered student organizations, registered fraternities and sororities, cocurricular activities procedures, and ways to assist students in starting a new group. It also advises registered student groups about planning programs, promoting activities, recruiting and retaining members, developing budgets, and bookkeeping procedures.

The staff serves as the professional advisers for University Program Board, Associated Student Government, and the fraternities and sororities, including the Interfraternity Council, Panhellenic Council, and the Black Greek Council.

STUDENT DISCIPLINE

The disciplinary power of the University is inherent in its responsibility to protect its educational purposes and processes through the setting of standards of conduct and scholarship for its students and through the regulation of the use of its facilities. The established standards of conduct apply to a student whenever he is on property owned, leased, or operated by the University. A student is also expected to abide by applicable federal, state, and local laws. The University assesses penalties for violation of its own regulations; however, the student is subject to public laws which the University Police officers (among other law enforcement agencies) are empowered to enforce on University property. All students are advised to become aware of the disciplinary procedures published in the *University Regulations Concerning Campus Conduct and Student Disciplinary Procedures* available in the Student Discipline and Associate Provost and Dean of Student Services offices.

STUDENT FINANCIAL AID AND EMPLOYMENT

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

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

CAREER PLANNING AND PLACEMENT

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

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

Both students and alumni may take advantage of the facilities and services of this office, and more than 400 interviewers come to the University each fall and spring to interview degree candidates.

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

CAREER DEVELOPMENT SERVICE

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

Major Objectives

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

Services

- Individual counseling for career and life planning. This individualized approach provides a systematic, in-depth exploration of self and the identification of possible career alternatives.
- Interest, aptitude, personality, and values testing for career and life planning. A wide range of vocational and psychological tests and inventories are available for self-assessment in individual and group counseling.
- Career and life-planning groups. Groups usually meet for three or four one-hour sessions using the self-assessment career planning approach.
- "Puzzling Your Career" workshops. This is a well-developed and flexible approach to career planning especially useful for the nontraditional student.
- SIGI — a computerized system of interactive guidance and information. SIGI is a computer program designed specifically to help college students make rational and informed career decisions.
- OCIS — computerized 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, as well as about job outlooks, salaries, job hunting skills, and University of Akron alumni follow-ups.
- Workshops on interviewing skills, resume writing, and job hunting skills. These are practical how-to sessions that deal with a topic in a clear, concise, informative manner.

- **Experiential Education**
Cooperative education work assignments provide eligible students with the opportunity to apply the theory learned in the classroom, prescreen career choices, develop professional skills and competence, and earn a reasonable income.
- **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, (216) 972-7082, the Career Planning and Placement Office, Simmons Hall 178, (216) 972-7747, or Cooperative Education, Spicer Hall 119, (216) 972-6722.

COUNSELING AND TESTING

In addition to participating with the Career Planning and Placement Office and Cooperative Education Office in the Career Development Service, the Counseling and Testing Center, in Simmons Hall, provides a wide range of psychological counseling, therapy, testing, and outreach 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. Occupational information is available through reference books and two computerized vocational guidance and information systems, SIGI and OCIS.
- *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* cover a wide range of topics which typically deal with improving grades, reducing test anxiety, planning careers, increasing wellness, and addressing personal issues; as well as providing support groups for minority students and others with a variety of concerns. Brochures are available.

Outreach and Consulting Service

The center's outreach and consulting service offers assistance to the larger university community by providing programs and workshops for a wide variety of campus groups. The center regularly provides speakers for classrooms, residence halls, student organizations, and administrative offices. Topic areas include academic performance, wellness, sexuality, and appreciating cultural diversity.

The center's staff is also available for consultation and advice in understanding individual or group behavior using psychological theory and principles. In addition, the center provides appropriate referral sources for social, psychological, and medical services.

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. Tests cover such areas as vocational interests, aptitudes, achievement, personality, and assessment of learning disabilities.

STUDENT HEALTH SERVICES

Health service facilities are located in Robinson Dining Hall, immediately adjacent to the residence halls. First aid services and limited medical care are available in the health services.

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

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

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

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

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

UNIVERSITY LIBRARIES

Library facilities are housed in three separate locations: in Bierce Library on Buchtel Common; the Science and Technology Department in Auburn Science and Engineering Center 104; and the Psychology Archives in Simmons Hall 10.

Library services include reference and research assistance, user education, bibliographic instruction, and computer-based information searching. Materials can be borrowed from the University libraries through the circulation department or obtained through interlibrary loan from other libraries. Archival Services collects and makes available materials 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 libraries' collections contain more than 2.8 million items: books, periodicals, government documents, curricular materials, microforms, maps, audio-visual materials, and archival documents. The library receives more than 6,000 magazines, journals, newspapers, and other serial publications, such as annual reports and the publications of various societies.

Through the library's memberships in the Center for Research Libraries, the Northeast Ohio Major Academic and Research Libraries consortium, the Online Computer Library Center (OCLC) and the Ohio Network of American History Research Centers, access to vast resources is greatly increased for University students, faculty, and staff.

University identification cards function as library cards. Photocopy services and equipment for use in making paper copies from microforms are available in the main library and the science and technology department. Group study rooms and typing facilities are also available in the main library.

Audio-Visual Services, located in Bierce Library 63B, maintains an extensive centralized collection of media hardware and audio-visual resources and materials for student and faculty use. It also has a collection of instructional materials in various media formats (filmstrips, slides, etc.) to supplement classroom instruction. Satellite stations for equipment distribution are located in Olin Hall 116; Schrank Hall South 238; Bierce Library 63; and Gardner Student Center on the second floor.

RESIDENCE HALLS

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

The University residence hall program is administered from the Office of Residence Halls on the first floor of Bulger Residence Hall. Currently the residence hall system includes 10 facilities housing approximately 2,200 students from 17 states and several foreign countries.

In addition, there are nine private residence halls with a collective capacity of nearly 700 spaces for undergraduate students just off the periphery of campus. Two private units with a total of 85 spaces for graduate students are located south of campus.

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

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

Robertson Dining Hall

A student who lives in the residence halls must participate in a board plan. A residence hall occupant receives a meal card, which is not transferable, entitling the holder to meals according one of the available board options.

Cost: Room and Board

The current rate for housing accommodations and food service is \$3,360 per year (\$1,680 per semester).

Housing is also available during the summer on a limited basis. The charges are: per night, \$7.50; per session, \$240; and for the entire summer school period, \$480. Summer session prices reflect the cost of room only. A student is responsible for meals.

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

Residence Hall Program Board (RHPB)

RHPB is a student-operated programming organization that provides a variety of social activities for residence hall students. RHPB's six standing committees — major events, musical entertainment, telecom, publicity, technical and special features — sponsor an array of activities such as Freshman Orientation, Little Sibs Weekend, Hall Fest, dances, miniconcerts, contests, talent shows, movies, and trips to sports events.



Residence Hall Student Council Government

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

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

University Residence Halls

	Number of Residents
Bulger Hall (men)	490
265 Buchtel Common	
Gallucci Hall (men and women)	464
200 E. Exchange Street	
Grant Residence Center	427
Highrise (women) 151 Wheeler Street	
Townhouses (men and women) Sherman and Grant streets	
Orr Hall (women)	122
188 S. College Street	
Ritchie Hall (women)	96
269 Buchtel Common	
Sisler-McFawn (women)	126
211 E. Center Street	
Spanton Hall (women)	315
190 S. College Street	
Richard S. Garson Hall (men)	59
282 Torrey Street	
Brown Street Hall (men)	137
333 Brown Street	

Private Residence Halls

Berns Hall (women)	106
503-505 Vine Street	
Concord Hall (women)	35
389 Sherman Street	
Glenville House (men)	52
478 Orchard Street	
Joey Hall (men and women)	118
Sherman Hall (men)	50
417 Sherman Street	
Sumner Hall (women)	40
430 Sumner Street	
Wallaby Hall (men and women)	116
323 Brown Street	
Wallaro Hall (men and women)	164
420 Vine Street	

NURSERY CENTER

The University of Akron Nursery Center provides a variety of child development programs which are open to students, faculty, staff, and the general public. Each classroom is staffed with a Pre-K certified teacher and student aides. Opportunities are provided for youngsters to engage in developmentally appropriate activities in the following areas: creative art, language arts, music, science exploration, gross motor development, table and rug toys, socio-dramatic play, sand-box, water table, and computer. The program emphasizes the development of a positive self concept through an anti-bias curriculum.

The Nursery Center is open between 7:30 a.m. and 6 p.m. Monday through Friday during the fall and spring semesters offering hourly flextime and half day programs for children three to five years old. Full-day sessions are available for three to five year olds year around.

A summer program is also offered for school-aged children (K through third grade) from three to eleven years old during the center's summer hours, from 7:00 a.m. until 6 p.m. and a flextime program for three to five year olds.

For more information call the Nursery Center, 972-7760.

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. 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. For more information on campus ministries, call 376-3585.

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

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

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

THE BLACK CULTURAL CENTER (BCC)

The Black Cultural Center (BCC) plans and implements educational and cultural programs and activities which address and reflect the African American cultural experience. The center has as part of its mission the responsibility to ensure that the culture of African Americans is celebrated, understood, expanded and transmitted within the context of the University and the Greater Akron community. In addition, the Center seeks to create opportunities to increase multi-cultural communication, awareness and sensitivity. The BCC coordinates African American student organizations and provides supports to minority students as is appropriate.



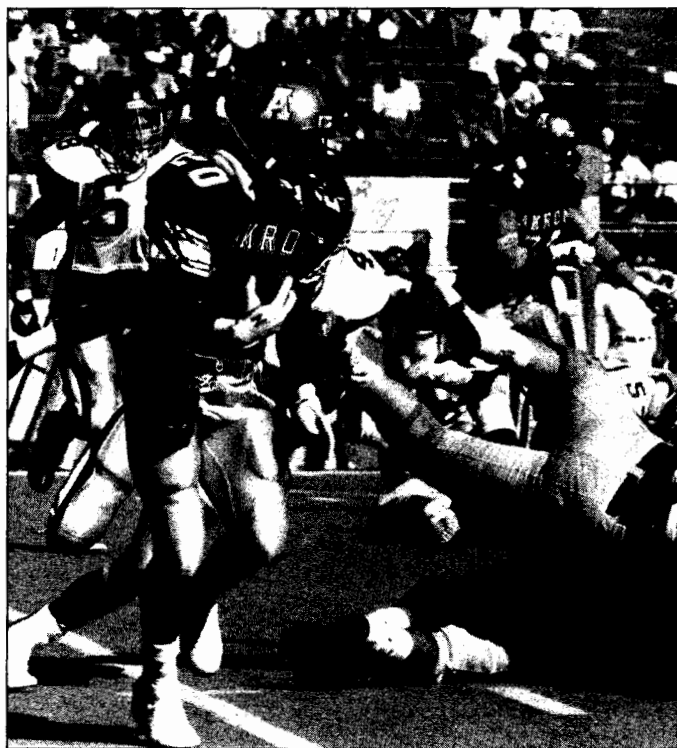
Cocurricular Activities

Experiences obtained through social life and cocurricular activities add an important dimension of learning to formal coursework.

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

Cocurricular offerings range from athletics to communications and publications, from recognition societies and honoraries to personal interest groups, from performing arts groups to religious organizations, and from academic department interest clubs to social fraternities and sororities. Participation in these activities provides an opportunity to make new acquaintances and contacts with various people in the University and community; they also provide the chance to broaden classroom learning experiences, develop skills that will be marketable in the search for a career position, introduce students to additional interests, and teach them leadership and human relations skills.

Listed here are some of the most popular activities. A complete listing may be found in the Office of Student Development, Gardner Student Center 104.



PERFORMING ARTS

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

A student who aspires to act, write, or produce in theatre is encouraged to attend auditions and to apply for technical positions. The experimental theatre in Guzzetta Hall is distinguished by its flexible design. 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 studios. A student may participate in the operation and broadcast of public radio station, WZIP (88.1 FM).

A University student interested in music may audition for membership in the famous 200-piece Marching Band, the Concert Choir, the Vocal Jazz Ensemble, the award-winning Jazz Ensemble, the University Orchestra, the Concert Band, the Symphonic 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.

An additional opportunity in the area of performing arts is offered through ballet, in the form of the Repertory Dance Ensemble, which works closely with the world-renowned Ohio Ballet.



SPORTS

The University of Akron believes that intercollegiate athletics are an important and wholesome adjunct to the principal mission of the University. The University believes that it serves a purpose for the physical well-being and health of its students, as well as for their mental development. Accordingly, it provides programs of intercollegiate and intramural sports. Participants in either program must be, first and foremost, full-time students whose fundamental aim is to obtain a sound education.

The University of Akron currently competes in 17 NCAA Division I intercollegiate sports. The three athletic seasons include: Fall — football, soccer, men's and women's cross country, and women's volleyball; Winter — men's and women's basketball, men's and women's indoor track, and riflery; Spring — women's fast-pitch softball, baseball, golf, men's and women's tennis, and men's and women's outdoor track. The athletic program actively seeks participants from the campus population and annually attracts some 400 students for participation in various intercollegiate sports. Likewise the athletic department selects each spring a cheerleader squad and dance team from the campus community and incoming high school seniors.

Intercollegiate athletic programs enhance the educational opportunities of the students who participate in those activities. The men and women who are involved in intercollegiate athletic programs at The University of Akron shall be expected to maintain the academic standards required of all students at the University and adhere to applicable NCAA and conference regulations.

Students are admitted free to all regular season home intercollegiate contests with a validated I.D. Likewise, students who wish to work for the promotion of intercollegiate athletics on campus are urged to join the student sports committee.

Further educational opportunities in athletics can be pursued through the Director of Athletics Office (JAR 183).

DEPARTMENTAL ORGANIZATIONS

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

PERSONAL INTEREST ORGANIZATIONS

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

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

Students at The University of Akron have the opportunity to hold positions on the all-campus activities board, the University Program Board. UPB is open to interested students and is actively involved in the selection, promotion, and presentation of concerts, evening and afternoon entertainment, lectures, recreational activities, art exhibits, minicourses, and many other special events for the University community.

STUDENT PUBLICATIONS

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

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

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

Akros Review is a literary journal of creative writing and artwork primarily by students at The University of Akron and secondarily by artists and writers in the Northeast Ohio area.



DIRECTORY OF STUDENT ORGANIZATIONS

January 1991

Honoraries

Alpha Alpha Alpha (social work)
Alpha Epsilon Rho (communications)
Beta Alpha Psi (accounting)
Beta Gamma Sigma (business)
Delta Phi Alpha (German)
Eta Kappa Nu (electrical engineering)
Golden Key National Honor Society
Kappa Kappa Psi (bands)
Kappa Omicron Phi (home economics)
Mortar Board (leadership/scholastic)
Mu Kappa Tau (marketing)
National Residence Hall Honorary
Omicron Delta Kappa (leadership/scholastic)

Order of Omega (interfraternity)
Phi Alpha Theta (history)
Phi Eta Sigma (freshmen scholastic)
Phi Theta Kappa (Community & Technical College)
Pi Delta Phi (French)
Pi Mu Epsilon (mathematics)
Psi Chi (psychology)
Rho Lambda (panhellenic)
Sigma Delta Pi (Spanish)
Sigma Theta Tau (nursing)
Tau Alpha Pi (engineering & science technology)
Tau Beta Pi (engineering)
Tau Beta Sigma (bands)

Professional

American Institute of Aeronautics & Astronautics
American Institute of Chemical Engineers
American Production & Inventory Control Society
American Society for Personnel Administration
American Society of Civil Engineers
American Society of Mechanical Engineers
Biomedical Engineering Society
Delta Nu Alpha (transportation)
Delta Sigma Pi (business)
Financial Management Association
International Association for Business Communicators
National Society of Black Engineers
Pi Sigma Epsilon (marketing)
Public Relations Student Society of America
Women in Communications, Inc.

Publications

Akros Literary Magazine
Arete (The Legal Pad)
The Buchtelite
Tel-Buch

Special Interest

Alpine Ski Team
Amateur Radio Club
Amateur Wrestling Club
Aquatics Club
Bike Club
Black United Students
Campus Habitat for Humanity
Cheerleaders
Chess & Go Club
Circle K
Contemporary Students Organization
Gay/Lesbian Student Resource
Gospel Choir
Green Dragon Kung-Fu Club
Inroads at The University of Akron
Karate/Judo/Taekwondo Club
Northeastern Ohio Flute Association
Outing Club
Politics Club
Pre-Law Club
Rainbow Coalition
Senior Class Board
Ski Club
University Gaming Society
Women's Network Student Chapter

Nontraditional

Alpha Sigma Lambda scholastic honorary
Lesbian/Gay Cultural Concern

Graduate

African American Graduate Student Counsel
Association of Chemistry Graduate Students
Chi Sigma Iota (counseling)
Counseling Psychology Graduate Student Organization
Graduate Student Government
Industrial/Organizational Psychology Graduate Students
International Graduate Student Organization
Polymer Science Student Organization
Society of Plastics Engineers
Student Association for Graduates in Education

Law

Arete (The Legal Pad)
Black Law Students Association
Bracton's Inn Oral Advocacy Society
Delta Theta Phi Law Fraternity
International Law Society
Law Association for Women's Rights

Phi Alpha Delta Law Fraternity
Student Bar Association

Religious

Baptist Student Union
Campus Bible Fellowship
Campus Focus
Christians on Campus
Ecumenical Christian Association
Great Commission Students
Interspersary Christian Fellowship
Newman Catholic Community
True Vine Campus Ministry
University Christian Outreach

Political

American Friends Service Committee/Central American Solidarity Association
College Republicans

Military

Arnold Air Society
James A. Garfield Company
National Society of Pershing Rifles
Rangers
Sabre Drill Team
Silver Wings Society of Angel Flight

Programming

Residence Hall Program Board
University Program Board

International

African Students Association
Chinese Student Association
Chinese Student Society
Hellenic Club
Indian Students Association
International Students Club
Italian Club
Korean Student Association
Palestine Club
Philippine-American Students Association
Slavic Society
Vietnamese Student Association

Governing Bodies

Associated Student Government
Black Greek Council
Graduate Student Government
Interfraternity Council
Panhellenic Council
Residence Hall Council
Student Bar Association

Social Fraternities

Alpha Phi Alpha
Delta Tau Delta
Lambda Chi Alpha
Omega Psi Phi
Phi Beta Sigma
Phi Delta Theta
Phi Gamma Delta (FIJI)
Phi Kappa Psi
Phi Kappa Tau
Phi Sigma Kappa
Pi Kappa Epsilon (Lone Star)
Sigma Nu
Sigma Pi
Sigma Tau Gamma
Tau Kappa Epsilon
Theta Chi

Social Sororities

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

Departmental

Accounting Association
Advertising Club
Akron Council of Education Students
Association of Collegiate Entrepreneurs
Biology Club
Black Computer Science Association
Black Education Students
Collegiate Nurses Club
Collegiate Secretaries International
Computer Science Club
Computer Society of the IEEE
Council for Exceptional Children
Data Processing Management
Association
Der deutsche Studentenklub
Economics Club
Electronics Club
Fire Protection Society
Future Physicians Club
Geography Club
Geology Club
Honors Club
Institute of Electrical & Electronics
Engineers
Instrument Society of America, Akron
Student Section

International Business Club
International Food Service Executives
Association
Johnson Club
Le Cercle Francais
League of Black Communicators
Math Club
Minority Business Student Association
National Association of Black
Accountants
Organization for Children's Health Care
Philosophy Club
Society for the Advancement of
Materials & Process Engineering
Society of Automotive Engineers
Society of Interior Design Students
Society of Physics Students
Society of Signers
Society of Students in Construction
Student Art League
Student Dietetic Association
Student Social Work League
Student Toastmasters
Theatre Guild





SECTION

Three

**Admissions, requirements,
procedures, and costs**

F A C T S

*Courses have been offered at
The University of Akron in:*

- *nursing since 1945*
- *business since 1919*
- *education since 1916*
- *engineering since 1914*
- *polymer science since 1909
(rubber chemistry)*

Admissions

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

Special consideration for admissions and housing may be given to those applicants who provide The University of Akron with cultural, racial, economic, and geographic diversity, who possess outstanding talents, or whose previous academic performance may have been affected by physical, mental, or learning environment factors.

RECOMMENDED HIGH SCHOOL COURSES

Students should pursue the following college preparatory curriculum:

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

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

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

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

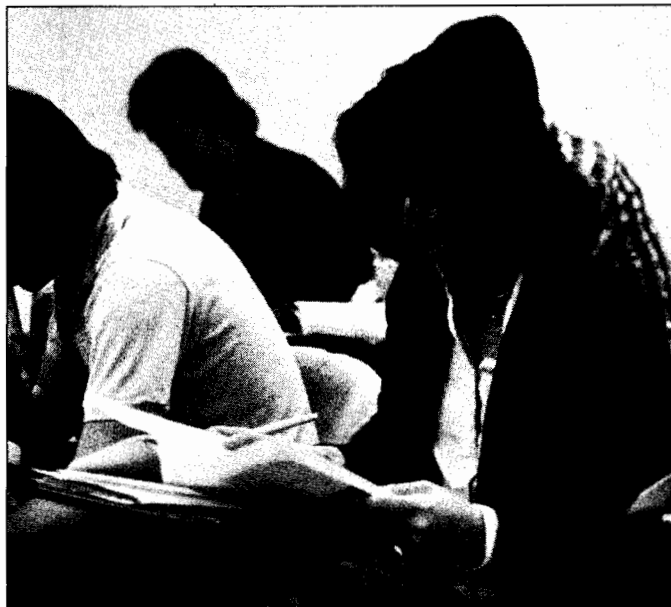
CLASSIFICATION OF STUDENTS

The University of Akron classifies its 29,000 students according to their needs, goals, and abilities. Classifications include:

- **Undergraduate** — A student who has not earned the baccalaureate degree and is eligible to enroll in undergraduate-level credit courses.
- **Postbaccalaureate** — A student who holds the baccalaureate degree from an accredited institution, 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 Nontraditional** — A student who desires to complete a minimum number of credits to fulfill a specific objective such as personal growth or job training. The student must be graduated from high school at least one year prior to application and/or not have attended another college or university for at least one year. A special nontraditional student will be limited to two courses or six credits per term to a maximum of 18 credits total.
- **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. Such students must indicate that they are auditors 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.
- **Post-Secondary Enrollment Options** — A student who is currently enrolled in high school may enroll in the post-secondary enrollment options program. Students must meet the outlined requirements for these programs.

- **Guest — (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 (guest 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 processed. There is no set date for notification of admission; it is an ongoing process. However, it is advisable for a prospective student to submit all credentials as early as possible to be assured the best selection of classes and/or a room in the residence halls.

Admission procedures vary slightly for different types of students. The various admissions categories include: recent high school graduate, adult student, transfer student, postbaccalaureate student, special student, guest student, post-secondary enrollment options student, non-traditional student, and international student. For information on admission to the Graduate School, see **Section 7** of this *Bulletin*.

Please contact the Office of Admissions for application deadline information. (972-7100)

Recent High School Graduates

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

- Obtain an application form from the Office of Admissions, either by calling (216) 972-7100 or writing the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Fill it out and return it as soon as possible with the nonrefundable application fee (a one-time charge). All checks should be made payable to The University of Akron and should specify what fees and for which student the payment is being made.
- Send a student transcript to the Office of Admissions at the time of application. This record must be received before any admission action can be taken by the University.
- Take entrance tests. Arrangements may be made through the student's high school to take the ACT or SAT. (The University's Counseling and Testing Center also serves as a testing site for the ACT test.) 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) by the completion of the first term of attendance. To arrange for the mathematics test, contact the Testing Bureau, Simmons Hall 161, at (216) 972-7084. The English test can be taken by contacting the Department of Developmental Programs, Carroll Hall 210, at (216) 972-7087. Have test

score(s) interpreted by contacting the dean of the University College, Spicer Hall 214, at (216) 972-7066 two days after taking the appropriate test(s). Please note that failure to take the required test(s) prohibits enrollment in college-level mathematics and/or English courses.

- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission to the University, directions for academic counseling will be explained. All freshmen receive academic advising through Academic Advising Services of the University College.
- **If the student is under 25 years of age**, the student must request a high school transcript. This official record must be received and evaluated before admission action can be taken.
- **If the student is under 21 years of age**, the student must submit results of either the ACT or SAT. (The University of Akron's Counseling and Testing Center serves as a testing center for the ACT test.) These test scores are needed before an applicant is formally admitted to the University.

Adult Students

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

The following application procedures should be followed:

- Obtain an application form from the Office of Admissions, either by calling (216) 972-7100 or by writing the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Fill it out and return it as soon as possible with the nonrefundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student the payment is being made.
- **If the student is under 25 years of age**, the student must request a high school transcript. This official record must be received and evaluated before admission action can be taken.
- **If the student is under 21 years of age**, the student must submit results of either the ACT or SAT. (The University of Akron's Counseling and Testing Center serves as a testing center for the ACT test.) These test scores are needed before an applicant is formally admitted to the University.
- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission to the University, the student will receive directions concerning academic counseling. All freshmen receive academic advising through Academic Advising Services of the University College.

Transfer Students

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

A transfer student should apply as follows:

- Obtain an application form from the Office of Admissions, either by calling (216) 972-7100 or writing the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Fill it out and return it as soon as possible with the nonrefundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student the payment is being made.
- A transfer applicant must request the official transcripts from the records office of all institutions previously attended. They should be mailed to the Office of Admissions.
- **A student under 25 years of age** and with fewer than 12 credits of accredited transfer work must submit a high school transcript or GED scores along with the college transcript(s). **A student under 21 years of age** and having fewer than 12 transfer credits must submit results from the ACT or SAT test in addition to a high school transcript or GED scores. If it appears necessary to validate the transfer credits of a student with more than 12 credits, the appropriate admitting officer may also require the ACT battery. These documents must be received and evaluated before any admission action can be taken by the University.
- The University requires enrollment in basic mathematics and/or English if the student's academic adviser determines that deficiencies exist in one or both of these areas. This recommendation will be based on the following: work completed at a previous institution in mathematics and/or English; high school academic record (if available); standardized test results, ACT or SAT (if available); and University mathematics and/or English placement test results. If a mathematics or English placement test is deemed necessary to comply with this policy, the student must take the appropriate placement test(s) by the completion of first term of attendance. Arrange for the mathematics test by contacting the Testing Service (Simmons 161,

(216) 972-7084); arrange for the English test by contacting the Department of Developmental Programs (Carroll 210, (216) 972-7087); and, have test score(s) interpreted by contacting the dean of the University College two days after taking the appropriate test(s).

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

- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission, the student will receive directions concerning academic counseling. University College freshmen and some sophomore day students receive academic advisement through Academic Advising Services of the University College. A student in the Community and Technical College or a degree-granting college will be advised by a faculty member in the appropriate department.

State Policy on Institutional Transfer

The Ohio Board of Regents, following the directive of the Ohio General Assembly, has developed a new statewide policy to facilitate movement of students and transfer credits from one Ohio public college or university to another. The purpose of the State Policy is to avoid duplication of course requirements and to enhance student mobility throughout Ohio's higher education system. Since independent colleges and universities in Ohio may or may not be participating in the transfer policy, students interested in transferring to an independent institution are encouraged to check with the college of university of their choice regarding transfer agreements.

Transfer Module

The new Ohio Board of Regents' Transfer and Articulation Policy established the Transfer Module, which is a specific subset or the entire set of a college or university's general education requirements. The Transfer Module contains 54-60 quarter hours or 36-40 semester hours of specified course credits in English composition, mathematics, fine arts, humanities, social science, behavioral science, natural science, physical science, and interdisciplinary coursework.

A transfer module completed at one college or university will automatically meet the requirements of the transfer module at the receiving institution, once the student is accepted. Students may be required, however, to meet additional general education requirements that are not included in the Transfer Module.

Conditions for Transfer Admission

Students meeting the requirements of the Transfer Module are subject to the following conditions:

1. The policy encourages receiving institutions to give *preferential consideration* for admission to students who complete the Transfer Module and either the Associate of Arts or the Associate of Science degrees. These students will be able to transfer all courses in which they received a passing grade of D or better. Students must have an overall grade point average of 2.0 to be given credit for the Transfer Module.
2. The policy also encourages receiving institutions to give *preferential consideration* for admission to students who complete the Transfer Module with a grade C or better in each course and 90 quarter hours or 60 semester hours. Students must have an overall grade point average of 2.0 to be given credit for the Transfer Module and only courses in which a C or better has been earned will transfer.
3. The policy encourages receiving institutions to admit on a *non-preferential consideration* basis students who complete the Transfer Module with a grade of C or better in each course and less than 90 quarter hours or 60 semester hours. These students will be able to transfer all courses in which they received a grade of C or better.

Admission to a given institution, however, does not guarantee that a transfer student will be automatically admitted to all majors, minors, or fields of concentration at that institution. Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as all other students. Furthermore, transfer students shall be accorded the same class standing and other privileges as native students on the basis of the number of credits earned. All residency requirements must be successfully completed at the receiving institution prior to the granting of a degree.

Responsibilities of Students

In order to facilitate transfer with maximum applicability of transfer credit, prospective transfer students should plan a course of study that will meet the requirements of a degree program at the receiving institution. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are language requirements or any special course requirements that can be met during the freshman or sophomore year. This will enable students to plan and pursue a course of study that will articulate with the receiving institution's major. Students are encouraged to seek further information regarding transfer from both their advisor and the college or university to which they plan to transfer.

Appeals Process

A multi-level, broad based appeal process is required to be in place at each institution. A student disagreeing with the application of transfer credit by the receiving institution shall be informed of the right to appeal the decision and the process for filing the appeal. Each institution shall make available to students the appeal process for that specific college or university.

If a transfer student's appeal is denied by the institution after all appeal levels within the institution have been exhausted, the institution shall advise the student in writing of the availability and process of appeal to the state level Articulation and Transfer Appeals Review Committee.

The Appeals Review Committee shall review and recommend to institutions the resolution of individual cases of appeal from transfer students who have exhausted all local appeal mechanisms concerning applicability of transfer credits at receiving institutions.

Postbaccalaureate Students

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

This procedure should be followed:

- Obtain an application form from the Office of Admissions, either by calling (216) 972-7100 or writing the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Fill it out and return it as soon as possible with the nonrefundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student the payment is being made.
- A postbaccalaureate student must request the registrar of the institution(s) from which he or she graduated to send an official and complete transcript. These documents must be received and evaluated before any admission action can be taken by the University.
- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission, the student will receive information on registration and instructions for academic counseling by a faculty member in the appropriate department.

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

This procedure should be followed:

- Obtain a special student application from the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Complete and return it with the non-refundable application fee (a one-time charge).
- Information regarding registration for classes and academic advising will be forthcoming in the letter of admission to the special student program.

Special Non-Traditional Students

This student is one who desires to complete a minimum number of credits to fulfill a specific objective such as personal growth or job training. The student has graduated from high school at least one year prior to application, and has not attended another college or university for at least one year. A student enrolled under the special non-traditional status is limited to 18 credits.

This procedure should be followed:

- Obtain an application from the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Complete and return it with the non-refundable application fee (a one-time charge).

Post-Secondary Enrollment Options

A student in the 11th or 12th grade may enroll in the Post-Secondary Enrollment Options program. A student below the 10th grade may enroll in the Youth Enrollment Options Program. Students must meet the outlined criteria:

- Demonstrated academic ability, maturity, and preparation.
- 3.0 grade point average (GPA) for college preparatory coursework.
- Students without a college preparatory coursework must have a 3.3 GPA for work completed.
- Students without college preparatory coursework and with less than a 3.3 GPA are limited to performance type coursework such as music, art, etc.

- The Post-Secondary Enrollment Options programs are limited and selective. The University reserves the right to accept only as many qualified students as can be properly served.

This procedure should be followed:

- Obtain a post-secondary enrollment options application from the Office of Admissions, The University of Akron, Akron, OH 44325-2001.
- Complete and return the form with the guidance counselor's and parent's signatures and the non-refundable application fee (a one-time charge).
- Information regarding acceptance into the program, registration for classes, and academic advising will be forthcoming in the letter of admission to the post-secondary enrollment options program.

Guest Students (Non-University of Akron Students)

An undergraduate guest student must apply to the Office of Admissions. A graduate student must apply through the dean's office of the Graduate School.

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

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

- Obtain a guest student application from the Office of Admissions, The University of Akron, Akron, OH 44325-2001. Complete it and return it with the nonrefundable application fee (a one-time charge).
- Receive advice and written approval by the home institution of the coursework for which the student plans to enroll.
- After admittance, information regarding registration will be sent to the student. The admissions officers act as guest student counselors.

Audit Policy

A student choosing to audit a course must elect to do so at the time of registration. The student pays the enrollment fee and may be expected to do all the work prescribed for students taking the course for credit, except that of taking the examination. Any faculty member may initiate withdrawal for a student not meeting these expectations.

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 1990-1991 academic year, approximately 1,200 students with citizenship other than the United States attended the University. These students represent 89 countries and are pursuing studies in a number of major fields.

Admission Procedures

Applicants may be accepted for any academic term. All admission requirements should therefore be completed at least 45 days prior to the start of the term the student wishes to enroll.

The following application procedures should be followed:

- Obtain an international student application form from the Office of Admissions. The address is: Office of Admissions, The University of Akron, Akron, OH 44325-2001 USA. Fill the application out and return it with the nonrefundable application fee of \$25 (a one-time charge).
- Submit official transcripts from all secondary or middle schools and all universities attended previously. Original records in languages other than English must be accompanied by exact English translations and certified by the school or consulate or other appropriate verifications.
- International students must also include an autobiographical essay with the application. This essay should cover any significant personal, occupational, and educational experiences.
- Proof of English language proficiency. The University requires each student for whom English is not the native language to take the Test of English as a Foreign Language (TOEFL). This test is administered throughout the world in major cities. Applications may be obtained from binational agencies, United States Information Service (USIS) offices or by applying directly to Educational Testing Service, Princeton, NJ 08540. Because it normally takes six to eight weeks for the University to receive the results of the TOEFL, the student is encouraged to take the examination in October or January. The University cannot guarantee the student who takes the examination in March that the records will be processed completely before the July 1 application deadline.

The English Language Institute at the University offers a program in English for the student who has not reached the level of proficiency required for full admission. A student who has not yet taken or passed the TOEFL can still enroll in the English Language Institute.

- **Proof of adequate financial support.** An international student is requested to submit a *Declaration and Certification of Finances* and bank statement showing the availability of sufficient funds to cover the cost of the student's education while attending the University and that these funds will be available to the student in this country. It is estimated that an undergraduate international student will need a minimum of \$12,500 per academic year for tuition and living expenses while attending. If the student remains in the United States to attend summer sessions, approximately \$3,000 more should be added to that amount. Immigration regulations prevent a student from earning any substantial portion of this amount. There are virtually no scholarships available to an undergraduate from abroad, although a graduate student may request and often receive financial aid through fellowships and graduate assistantships. A graduate student interested in applying for this aid should request the necessary forms at the time of application for admission to the Graduate School.

Following the recommendation of the American College Health Association and the National Association for Foreign Student Affairs, The University of Akron requires all international students and exchange visitors (individuals on J and F visas) to carry medical insurance. Such health insurance coverage must be in effect during their stay in the United States. It must also include coverage for repatriation and medical evacuation should a student need to be sent home for medical reasons. *International students will not be permitted to register without proof of such coverage.*

Orientation - International Students

International students are required to attend a special orientation program which begins the week before classes. The schedule for orientation will be mailed with the *Certificate of Eligibility* (I-20 or IAP-66) from the office of the immigration specialist. Students may be required to participate in noncredit English classes if the results of their placement examination warrant such action.

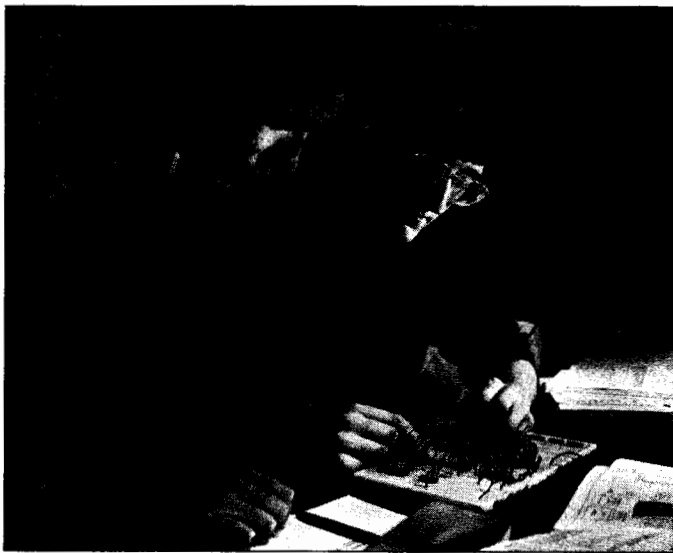
English Language Institute

The University offers an intensive English Language Institute for those whose command of the English language has not reached a level of proficiency sufficient to enable them to begin full-time academic coursework. The English Language Institute operates on a schedule of two 15-week semesters and a 10-week summer session.

Special Note

The University has an immigration specialist, an international student adviser and program specialist, and instructors of English as a second language. If international applicants have questions about housing, climate, or immigration regulations, they are encouraged to contact the Office of International Students directly.

The University is a member of NAFSA: Association of International Educators.



Procedures and Requirements



ORIENTATION

All new freshmen and University College transfer students are required to attend an orientation program in conjunction with registration. Traditional freshmen attend a two-day program intended to insure a smooth transition from high school to college. It includes sessions on academic responsibility, current campus issues, finances, cultural diversity and involvement in campus life as well as a tour, placement testing, academic advising and registration. Transfer and adult students will attend a specialized full one-day session tailored to their particular needs.

Details and various orientation fees are included in the material received after admission. Multiple orientation sessions are available prior to each term and are filled on a first-come, first-served basis. Therefore, early and careful planning is important.

ACADEMIC ADVISING

New students are required to meet with academic advisers upon initial entry to the University. Thereafter, students are strongly encouraged to see advisers each term to discuss degree requirements, career goals, major choice, course selection, and other academic concerns.

REGISTRATION

Each term it is necessary for a student to select courses, complete required forms, and pay the appropriate fees to register officially for classes.

The student may elect to register by telephone or in person. Details about these options are described in the *Schedule of Classes* published every academic period and available upon request from the student's advising agency, the Office of Academic Advising Services, or the degree-granting college. Students enrolling after the official open registration period will be charged a nonrefundable late registration fee.

CLASS ATTENDANCE

A student is expected to attend all meetings of a class for which he or she is registered. A student may be dropped from a course by the dean if absences are repeated and the instructor recommends this action; a student can gain readmission only with permission of both dean and instructor. A student dropped from a course receives an "F" which counts as work attempted whenever grade-point ratio calculations are made.

STUDENT SCHEDULES

Modification of Student Schedules

A student must register for a course before the end of the first week of the term. Alterations in the student's official schedule may be made only with the permission of the dean or the dean's designate.

A student in the University College should make all changes through an adviser in the Office of Academic Advising Services, Spicer Hall.

Withdrawal Policy

A student may withdraw from a course without an adviser's or course instructor's signature through the 14th day of a semester or comparable dates during summer session, intersession, etc. After the 14th day of a semester, and up to the midpoint of a semester, a student may withdraw from a course with the signature of the student's adviser.

After the midpoint of a semester, a student must have the signature of both the course instructor and the adviser. Such authorization must be dated and processed through the offices of the Registrar and Cashier no later than the last day of the 12th week of classes or comparable dates during summer session, intersession, etc.

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 or adviser who declined to approve the withdrawal.

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

Transfer Credit

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

For courses that have been taken at an institution of higher education noted in the reference document above, the dean of the college in which the student intends to obtain a degree will specify which courses listed, other than general studies, will apply toward the degree requirements at the University. This specification will be made at the time the student enters the degree-granting college. The dean of the University College will specify which courses listed will apply toward the general studies requirements when the student enters the University.

Guest Student — (University of Akron Students)

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

Credit by Examination

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

ination fee. The grade obtained in such an examination is recorded on the student's permanent record. Credit by examination is not permitted in the semester before graduation. Credit by examination may not be used to repeat for change of grade.

Bypassed Credit

Certain courses designated in this *Bulletin* by each department enable a student to earn "bypassed" credit. A student who completes such a course with a grade of "C" or better is entitled to credit for designated prerequisite courses which carry the same departmental code number. Credit for such bypassed prerequisites shall be included in the total credits earned but shall not count in the quality point ratio, class standing or hours required for graduation with honors. Bypassed credit is not awarded on the basis of completing a course either credit-by-examination or credit/noncredit.



Modern Languages	3520:102	3520:101	3520:101
	3520:201 or 207	3520:102	3520:101,2
	3520:202	3520:201	3520:101,2,201
	3520:208	3520:201 or 207	3520:101,2,201 or 207
	3520:301,2,5,6	3520:202	3520:101,2,201,2
	3520:309,10,11	3520:302 or 306	3520:101,2,201,2
	3520:312,351,2,		
	313,401	3520:202	3520:101,2,201,2
	3520:403,4	3520:302	3520:101,2,201,2
	3520:407,411,415,		
	419,427,429,450	3520:302 or 306	3520:101,2,201,2
	3530:102	3530:101	3530:101
	3530:201 or 207	3530:102	3520:101,2
	3530:202	3530:201	3530:101,2,201
	3530:208	3530:201 or 207	3530:101,2,201 or 207
	3530:301,2,305,6		
	351,2	3530:202	3530:101,2,201,2
	3530:403,4	3530:302	3530:101,2,201,2
	3530:406,7,419,20,		
	431,2,435,6,		
	439,440	3530:302 or 306	3530:101,2,201,2
	3550:102	3550:101	3550:101
	3550:201 or 207	3550:102	3550:101,2
	3550:202	3550:201	3550:101,2,201
	3550:208	3550:201 or 207	3550:101,2,201 or 207
	3550:301,2,305,6	3550:202	3550:101,2,201,2
	3570:102	3570:101	3570:101
	3570:201 or 207	3570:102	3570:101,2
	3570:202	3570:201	3570:101,2,201
	3570:208	3570:201 or 207	3570:101,2,201 or 207
	3570:301,2,305,6,		
	309,10	3570:202	3570:101,2,201,2
	3570:403,4	3570:302	3570:101,2,201,2
	3570:420,1	3570:301 or 302	3570:101,2,201,2
	3570:427,8	3570:202	3570:101,2,201,2
	3570:439	3570:404	3570:101,2,201,2
	3580:102	3580:101	3580:101
	3580:201 or 207	3580:102	3580:101,102
	3580:202	3580:201	3580:101,2,201
	3580:208	3580:201 or 207	3580:101,2,201 or 207
	3580:301,2,305,6	3580:202	3580:101,2,201,2
	3580:403,5,6	3580:302	3580:101,2,201,2
	3580:407,8	3580:302 or 306	3580:101,2,201,2
	3580:409,10,11	3580:302	3580:101,2,201,2
	3580:415,419	3580:302 or 306	3580:101,2,201,2
3580:422	3580:202	3580:101,2,201,2	
3580:423,427,8,9	3580:302 or 306	3580:101,2,201,2	
Philosophy	3600:374	3600:170	

College of Engineering

4200:200	4200:120	4200:120
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Nursing BSN-RN Sequence

(Limited to Licensed Registered Nurses)		
8200:420	8200:101,305,405,415	8200:320,400

Nursing MSN-RN Sequence

8200:450,460,470,485		8200:200,300,320,400
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	Course	Prerequisite	Approved for Bypassed Credit
University College	1100:112*	1100:111	1100:111
Community & Technical			
Mathematics	2020:132	2020:131	2020:131
Analysis	2020:142	2020:141	2020:141
	2020:233	2020:132	2020:131,2
Office Administration	2540:151	2540:150	2540:150
	2540:253	2540:151	2540:150,1
	2540:254	2540:151	2540:150,1
	2540:173	2540:171	2540:171
	2540:274	2540:173	2540:171,173
	2540:276	2540:274	2540:171,173,274
	2540:277	2540:274	2540:171,173,274
Buchtel College of Arts and Sciences			
Classics	3210:122	3210:121	3210:121
	3210:223	3210:121,2	3210:121,2
	3210:224	3210:121,2	3210:121,2
	3220:122	3220:121	3220:121
	3220:223	3220:121,2	3220:121,2
	3220:224	3220:121,2	3220:121,2
Economics	3250:400	3250:201,2	3250:201
	3250:410	3250:201,2	3250:202
Geography	3350:314	3350:310	3350:310
	3350:442	3350:341	3350:341
	3350:444	3350:341	3350:341
	3350:495	3350:310	3350:310
Mathematical Sciences	3450:211	3450:149	3450:149
	3450:212	3450:211	3450:211
	3450:215	3450:145 or 149	3450:145
	3450:216	3450:215	3450:215
	3450:221	3450:149	3450:149
	3450:222	3450:221	3450:149,221
	3450:223	3450:222	3450:149,221,2
	3460:210	3460:209, 3450:221 or 215	3460:205 or 209
	3470:262	3470:261	3470:261
	3470:253	3470:261	3470:261

GRADE POLICIES

Credit/Noncredit Option (undergraduate and postbaccalaureate only)

A student who takes a course on a "credit" or "noncredit" ("CR/NC") basis, and who earns a grade equivalent of "A" through "C-," shall receive credit ("CR") for the course and have the grade, "CR," placed on the permanent record; a grade equivalent of "D+" through "F" will be recorded with the noncredit grade, "NC."

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

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

No more than 16 credits of nonlanguage 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).

*An ACT English score of 32 and an SAT verbal score of 625 is needed to enroll in 1100:112 without the prerequisite.

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

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

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

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

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

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

Re-Examination

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

Repeating Courses

Any course may be repeated TWICE by an undergraduate student subject to the following conditions:

- 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.
- With the dean's permission, a student may 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 graduation grade-point average.
- All grades for attempts at a course will be used in grade-point calculation for the purpose of determining graduation with honors and class standing.
- For purposes of this section, credit for this course or its equivalent will apply only once toward meeting degree requirements.

Academic Reassessment

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

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

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

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:

Grade	Grade Points Per Credit
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
D-	0.70
F	0.00
AUD (Audit)	0.00
CR (Credit)	0.00
NC (Noncredit)	0.00

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

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

IP — In Progress: Indicates that the student has not completed the scheduled coursework during the term because the nature of the course does not permit completion within a single term, such as work toward a thesis.

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

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

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

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

Importance of Grades

Grades determine whether a student is either eligible or ineligible to remain at the University. A student who maintains specified levels of scholastic achievement receives privileges to participate in extracurricular activities.

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

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

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.

**If instructors wish to extend the "I" grade beyond the following term for which the student is registered, prior to the end of the term they must notify the Office of the Registrar in writing of the extension and indicate the date of its termination. 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.

Graduation with Honors

For a student who entered the University after December 1981 who is being awarded an initial baccalaureate degree and who has completed 60 or more credits at the University, the degree

will be designated	if the overall grade-point average is
Summa Cum Laude	3.80 or higher
Magna Cum Laude	between 3.60 and 3.79
Cum Laude	between 3.40 and 3.59

For a student who entered the University after December 1981 who is being awarded an initial associate degree and who has completed 30 or more credits at the University, the degree

will be designated	if the overall grade-point average is
with highest distinction	3.80 or higher
with high distinction	between 3.60 and 3.79
with distinction	between 3.40 and 3.59

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

will be designated	if the overall grade-point average is
Summa Cum Laude	3.75 or higher
Magna Cum Laude	between 3.50 and 3.74
Cum Laude	between 3.25 and 3.49

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

will be designated	if the overall grade-point average is
with distinction	3.25 or higher

GRADUATION

Requirements for Baccalaureate and Associate Degrees

A candidate for the baccalaureate or the associate degree must:

- File an application for graduation with the registrar. If the candidate plans to complete degree requirements at the end of fall semester, submit an application by or before May 15. If the plan is to complete degree requirements at the end of spring semester, submit an application by or before September 15.
- Earn a minimum 2.00 grade-point average as computed by the Office of the Registrar for work attempted at the University consistent with the *Repeating Courses* policy. The grade-point average achieved at the time of completion of requirements for a degree will include repeated and reassessed courses which will be used to calculate rank in class and honors.
- Meet all degree requirements which are in force at the time a transfer is made to a degree-granting college. If the student should transfer to another major, then the requirements should be those in effect at the time of the transfer. For a student enrolled in an associate degree program in the Community and Technical College, the requirements shall be those in effect upon entrance into the program.
- Be approved for graduation by appropriate college faculty, University Council, and Board of Trustees.
- Complete the requirements for a degree in not more than five calendar years from the date of transfer, as defined below. In the event the student fails to complete the degree requirements within five calendar years from the date of transfer, the University reserves the right to make changes in the number of credits and/or courses required for a degree.
- The date of transfer for a student in a baccalaureate program will be the date that the student is accepted by the degree-granting college. For a student enrolled in an associate degree program in the Community and Technical College, the date of transfer refers to the date of entrance into the program.
- Earn the last 32 credits in the baccalaureate degree total or 16 credits in the associate degree total in residence at The University of Akron unless excused in writing by the dean of the college in which the student is enrolled.
- Complete a minimum of 32 earned credits in the baccalaureate degree total or a minimum of 16 earned credits in the degree total in residence at The University of Akron.

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

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



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

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

The dean of the college, in consultation with the department or division head of the student's major field of study, may grant waivers in writing if a change in rules affecting degree requirements is unduly hard on a student enrolled before the change was effective. The action of the dean of the college in granting or refusing a waiver must be reviewed by the senior vice president and provost on his or her 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

	Min. Cr.	Min. Grade-Point Ave. Req.
Arts and Sciences		
Bachelor of Arts	128	2.00
Bachelor of Science	128	2.00
Bachelor of Science in Cytotechnology	128	2.00
Bachelor of Science in Geography/Cartography	128	2.00
Bachelor of Science in Labor Economics	128	2.00
Bachelor of Science in Political Science/Criminal Justice	131	2.00
Bachelor of Science in Political Science/ Public Policy Management	128	2.00
Bachelor of Science in Medical Technology	128	2.00
Engineering		
Bachelor of Science in Engineering	136	2.00
Bachelor of Science in Chemical Engineering	136	2.00
Bachelor of Science in Civil Engineering	136	2.00
Bachelor of Science in Electrical Engineering	136	2.00
Bachelor of Science in Mechanical Engineering	136	2.00
Bachelor of Construction Technology	136	2.00

Education*

Bachelor of Arts in Education	128	2.50
Bachelor of Science in Education	128	2.50
Bachelor of Science in Technical Education	128	2.50

Business Administration**

Bachelor of Science in Business Administration/Advertising	128	2.00
Bachelor of Science in Business Administration/Finance	128	2.00
Bachelor of Science in Business Administration/Marketing	128	2.00
Bachelor of Science in Industrial Management	128	2.00
Bachelor of Science in Accounting	128	2.00

Fine and Applied Arts

Bachelor of Arts	128	2.00
Bachelor of Arts in Business and Organizational Communication	128	2.00
Bachelor of Science in Dietetics	130-138	2.00
Bachelor of Arts in Foods and Nutrition	128	2.00
Bachelor of Arts in Textiles and Clothing	128	2.00
Bachelor of Arts in Family and Child Development	128	2.00
Bachelor of Arts in Communicative Disorders	128	2.00
Bachelor of Arts in Theatre Arts	128	2.00
Bachelor of Arts in Mass Media-Communication	128	2.00
Bachelor of Arts in Communication and Rhetoric	128	2.00
Bachelor of Arts in Dance	128	2.00
Bachelor of Music	129-140	2.00
Bachelor of Fine Arts	128	2.00
Bachelor of Arts/Social Work	128	2.00

Nursing

Bachelor of Science in Nursing	133	2.30
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Community and Technical

Associate of Arts	64	2.00
Associate of Individualized Studies	64	2.00
Associate of Labor Studies	64	2.00
Associate of Applied Business in:		
Business Management Technology	64	2.00
Commercial Art	64	2.00
Computer Programming Technology	64	2.00
Hospitality Management	64	2.00
Marketing and Sales Technology	64	2.00
Office Administration	64	2.00
Office Services Technology	64	2.00
Real Estate	64	2.00
Transportation	64	2.00
Associate of Applied Science in:		
Chemical Technology	66	2.00
Community Services Technology	64	2.00
Criminal Justice Technology	64	2.00
Drafting Technology	64	2.00
Educational Technology	64	2.00
Electronic Technology	68	2.00
Fire Protection Technology	64	2.00
Handicapped Services	71	2.00
Histologic Technology	64	2.00
Manufacturing Technology	67	2.00
Mechanical Technology	69	2.00

Medical Assisting Technology	64	2.00
Radiologic Technology	74	2.00
Respiratory Care	70	2.00
Surgical Assisting Technology	72	2.00
Surveying and Construction Technology	69	2.00
Bachelor of Science in Electronic Technology	135	2.00
Bachelor of Mechanical Technology	135	2.00

Wayne College

Associate of Arts	64	2.00
Associate of Science	64	2.00
Associate of Technical Studies	64	2.00
Associate of Applied Business in:		
Business Management Technology	64	2.00
Marketing and Sales Technology	64	2.00
Office Administration	64	2.00
Associate of Applied Science in:		
Microprocessor Service Technology	67	2.00
Social Services Technology	64	2.00

COURSE NUMBERING SYSTEM

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

3300:220 English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. In this case, 3000 represents the Buchtel College of Arts and Sciences; 300 refers to the Department of English. The second set of digits (220) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is being taught and the point at which the student is ready to take the course.

An explanation of that numbering system follows:

100-199	First-year-level courses
200-299	Second-year-level courses
300-399	Third-year-level courses
400-499	Fourth-year-level courses
500-699	Master's-level courses
600-799	J.D.-level courses
700-899	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, effective July 1, 1991, for entering freshmen.

**A separate 2.00 is required in the major and a separate 2.00 is required in all business and economics courses.

Fees and Expenses



• Course Materials and Computing Fees:

For the following undergraduate courses, the fee noted will be assessed to cover the cost of instructional materials distributed by the instructor and computing fees:

Course Number	Course Title	Credits	Course Fee
University College			
1100:123	Physical Education: Bowling	0.5	\$15
1100:124	Canoeing	0.5	\$10
1100:155	Basic Kayaking	1.0	\$10
Community and Technical College			
2220:250	Criminal Case Management	6	\$20
2220:291	Special Topics: Criminal Justice	1-4	\$10
2220:292	Special Topics: Criminal Justice	1-4	\$20
2220:293	Special Topics: Criminal Justice	1-4	\$30
2230:205	Fire Detection and Suppression Systems I	3	\$15
2230:206	Fire Detection and Suppression Systems II	3	\$15
2240:110	Multi-Image Production	3	\$25
2240:122	Introduction to Commercial Photography	3	\$25
2240:124	Design in Commercial Art	3	\$ 5
2240:130	Marker Rendering	3	\$ 5
2240:140	Typography and Lettering	3	\$10
2240:210	Portrait/Fashion Photography	3	\$25
2240:222	Introduction to Commercial Photography	3	\$25
2240:224	Illustration Advertising Photography	3	\$25
2240:242	Advertising Layout Design	3	\$ 5
2240:245	Designing for Production	3	\$15
2240:247	Packaging Design	3	\$15
2240:248	Publication Design	3	\$15
2240:250	Advanced Commercial Photography	3	\$25
2240:252	Professional Photographic Practicum	3	\$25
2280:121	Fundamentals of Food Preparation I	4	\$65
2280:122	Fundamentals of Food Preparation II	4	\$65
2280:123	Meat Technology	2	\$50
2280:232	Dining Room Service and Training	2	\$ 5
2280:233	Restaurant Operations and Management	4	\$40
2280:261	Baking and Classical Desserts	3	\$45
2280:262	Classical Cuisine	3	\$50
2280:263	International Foods	2	\$45
2440:120	Computer and Software Fundamentals	2	\$15
2240:121	Introduction to Programming Logic	2	\$ 5
2440:125	LOTUS 1-2-3	2	\$15
2440:130	BASIC Prog. for Business	3	\$20
2440:131	Introduction to Programming	2	\$ 5
2440:151	PC DOS Fundamentals	1	\$15
2440:235	Current Programming Topics	2	\$ 5
2440:243	Information Center Practicum	3	\$20
2440:245	Introduction to dBase III+/IV	3	\$20
2440:251	Computer Applications Projects	5	\$15
2440:267	4th Generation Language for Micros	3	\$20
2520:221	AAF Ad Campaign I	2	\$ 5
2520:222	AAF Ad Campaign II	2	\$ 5
2540:125	Electronic Business Calculations	2	\$10
2540:129	Information/Records Management	3	\$20
2540:130	Introduction to Office Automation	4	\$20
2540:131	Computerized Document Control	4	\$20
2540:140	Keyboarding for Non-Majors	2	\$10
2540:141	PC Word Processing for Non-Majors	2	\$15
2540:150	Beginning Keyboarding	3	\$15
2540:151	Intermediate Keyboarding	3	\$15
2540:171	Shorthand Principles	4	\$ 5
2540:172	Shorthand Refresher and Transcription	4	\$10
2540:173	Shorthand and Transcription	4	\$10
2540:241	Information Management	3	\$10
2540:247	Automated Office Systems	4	\$15
2540:248	Advanced Office Technologies	3	\$15
2540:253	Advanced Keyboarding/Word Processing	3	\$20
2540:254	Legal Keyboarding	2	\$10
2540:255	Legal Office Procedure I	3	\$15
2540:270	Office Software Applications	4	\$20
2540:271	Desktop Publishing	3	\$20
2540:274	Advanced Dictation and Transcription	4	\$10
2540:276	Executive Dictation & Transcription	4	\$10
2540:277	Legal Dictation and Transcription	4	\$10
2540:279	Legal Office Procedures II	4	\$20
2540:280	Word Processing Concepts	2-3	\$ 5
2540:281	Machine Transcription	2-3	\$20
2540:286	Keyboarding on Word Processing Equipment	3	\$10
2540:287	Word Processing Application	3	\$10
2540:288	Word Processing on Computers	2	\$10
2600:125	Boolean Logic	4	\$ 5
2600:230	Microprocessor and Digital Techniques	4	\$ 5
2600:275	Digital Data Communications	5	\$ 5
2740:135	Medical Assisting Techniques I	4	\$25
2740:235	Medical Assisting Techniques II	4	\$25
2770:121	Surgical Assisting Procedures I	2	\$25
2770:220	Surgical Assisting Procedures II	4	\$15
2770:245	Roentgenogram Assessment	1	\$ 5
2770:246	Medical Lab Procedures	1	\$25
2790:121	Introduction to Respiratory Care	3	\$25
2790:122	Respiratory Patient Care	3	\$25
2790:123	Mechanical Ventilators	3	\$25
2790:223	Advanced Respiratory Care	3	\$25
2790:224	Pulmonary Rehabilitation and Respiratory Care	2	\$ 5
2820:121	Technical Computations	1	\$ 5
2820:151	Basic Physics: Mechanics	3	\$ 5
2820:152	Basic Physics: Electricity and Magnetism	2	\$ 5
2820:153	Basic Physics: Heat, Light, and Sound	2	\$10

Fees subject to change without notice.

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

	Commuting Residents of Ohio	Residents of Ohio Living on Campus	Non-Ohio Residents
Undergraduate Tuition and Fees (regular load)	\$2,656	\$2,656	\$6,748.80
Books (average costs)	350	350	350
Room and Board	—	3,360	3,360
	\$3,006	\$6,366	\$10,458.80

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:**
 - Undergraduate
 - 1-12.5 credits \$81.35 per credit
 - 13-16 credits \$1,051.00 per semester
 - Over 16 credits \$1,051.00 + \$81.35 per credit
- **Tuition Surcharge:**
 - (Nonresidents of Ohio pay the surcharge in addition to the instructional fee)
 - Undergraduate
 - One or more credits \$127.90 per credit
- **General Fee:**
 - Undergraduate \$21.57 per credit to a maximum of \$277.00 per semester

2840:100	Basic Chemistry	3	\$15	3100:445	Plant Morphology	4	\$15
2840:101	Introductory Chemistry	3	\$15	3100:447	Plant Physiology	3	\$15
2840:102	Introductory and Analytical Chemistry	3	\$15	3100:451	General Entomology	4	\$10
2840:121	Organic Principles	4	\$15	3100:453	Invertebrate Zoology	4	\$15
2840:201	Quantitative Analysis	4	\$ 5	3100:454	Parastology	4	\$10
2840:202	Instrumental Methods	4	\$ 5	3100:458	Vertebrate Zoology	4	\$15
2840:250	Elements of Physical Chemistry	3	\$ 5	3100:461	Human Physiology	4	\$15
2840:260	Compounding Methods	2	\$ 5	3100:462	Human Physiology	4	\$15
2840:270	Natural and Synthetic Organic Polymers	4	\$15	3100:464	General and Comparative Physiology	4	\$15
2860:120	DC Circuits	4	\$ 5	3100:466	Developmental Anatomy	4	\$15
2860:122	AC Circuits	3	\$ 5	3100:467	Developmental Anatomy	4	\$15
2860:123	Electronic Devices	3	\$ 5	3100:480	Radiation Biology	3	\$15
2860:225	Linear Integrated Circuits	4	\$ 5	3150:121	Inorganic Chemistry I	3	\$15
2860:227	Measurements	2	\$15	3150:122	Inorganic Chemistry II	3	\$15
2860:231	Control Principles	3	\$10	3150:124	Chemistry	3	\$15
2860:237	Digital Circuits I	4	\$10	3150:129	Introduction to General, Organic and Biochemistry I	4	\$20
2860:238	Microprocessor Fundamentals	4	\$10		Introduction to General, Organic and Biochemistry II	4	\$25
2860:242	Machinery and Controls	4	\$ 5	3150:130	Principles of Chemistry I	4	\$20
2860:251	Communications Circuits	3	\$ 5		Principles of Chemistry II	3	\$ 5
2860:255	Electronic Design and Construction	2	\$15	3150:132	Qualitative Analysis	2	\$15
2860:270	Survey of Electronics I	3	\$ 5	3150:133	Organic Chemistry and Biochemistry I	4	\$25
2860:271	Survey of Electronics II	3	\$ 5	3150:134	Organic Chemistry and Biochemistry II	4	\$25
2860:352	Microprocessor Systems	4	\$10	3150:201	Organic Chemistry Laboratory I	2	\$25
2860:353	Control Systems	4	\$10	3150:202	Organic Chemistry Laboratory II	2	\$25
2860:400	Computer Simulations in Technology	3	\$ 5	3150:265	Analytical Chemistry for Laboratory Technicians I	4	\$30
2860:453	Control Systems	4	\$10	3150:266	Analytical Chemistry for Laboratory Technicians II	4	\$30
2870:311	Computer Aided Drafting II	2	\$10	3150:335	Advanced Chemistry Lab I	2	\$25
2870:410	Computer Aided Drafting III	2	\$15	3150:336	Advanced Chemistry Lab II	2	\$25
2870:458	Advanced CNC Programming	3	\$15	3150:380	Biochemistry Laboratory	3	\$25
2880:130	Work Measurement and Cost Estimating	3	\$ 5	3150:381	Physical Chemistry for Biology Majors	3	\$25
2880:201	Robotics and Automated Manufacturing	3	\$10	3150:388	Qualitative Organic Analysis	4	\$25
2880:221	Surveying of Machine Tools & CNC	3	\$15	3150:405	Analytical Chemistry Laboratory III	2	\$30
2880:222	CNC Manufacturing	3	\$15	3150:411	Advanced Chemistry Lab IV	2	\$30
2880:241	Introduction to Quality Assurance	3	\$ 5	3150:421	Introduction to Fiction Writing	3	\$15
2900:121	Fundamentals of Instrumentation	4	\$15	3150:420	Film Appreciation	3	\$15
2900:232	Process Control	3	\$15	3150:481	Advanced Fiction Writing	3	\$15
2900:239	Pulse Circuit Testing	3	\$15	3300:278	Film Criticism	3	\$15
2920:142	Design Materials	3	\$10	3300:283	Physical and Environmental Geography	3	\$ 5
2920:201	Mechanical Design I	4	\$10	3300:378	Climatology	3	\$ 5
2920:245	Mechanical Design II	5	\$10	3300:380	Cartography	3	\$10
2920:247	Technology of Machine Tools	3	\$15	3300:380	Maps and Map Reading	3	\$ 5
2920:252	Thermo. Fluids Lab	1	\$ 5	3350:310	Geographic Information Systems	3	\$ 5
2920:339	Advanced Technology of Machine Tools	2	\$15	3350:314	Urban Land Use Analysis	3	\$ 5
2920:346	Mechanical Design III	4	\$10	3350:340	Thematic Cartography	3	\$ 5
2920:348	Computer Numerical Control Programming I	3	\$10	3350:341	Map Compilation and Reproduction	3	\$ 5
2920:360	Fundamentals of Automotive Systems	3	\$10	3350:405	Introduction to Remote Sensing	3	\$ 5
2920:365	Fundamentals of Heating and Air Conditioning	3	\$ 5	3350:436	Automated Computer Mapping	3	\$ 5
2920:405	Introduction to Industrial Machine Control	3	\$10	3350:442	Advanced Remote Sensing	3	\$ 5
2920:448	Computer Numerical Control Programming II	3	\$10	3350:444	Soil and Water Field Studies	3	\$ 5
2940:121	Technical Drawing I	3	\$ 5	3350:447	Earth Science	3	\$ 5
2940:122	Technical Drawing II	3	\$10	3350:448	Introductory Physical Geology	4	\$10
2940:170	Surveying Drafting	3	\$10	3350:449	Introductory Historical Geology	4	\$10
2940:180	Introduction to Computer Aided Drafting	1	\$10	3370:100	Environmental Geology	3	\$ 5
2940:210	Computer Drafting	3	\$10	3370:101	Geology of National Parks	3	\$ 5
2940:230	Mechanical Systems Drafting	3	\$ 5	3370:102	Geomorphology	3	\$15
2940:240	Electrical and Electronic Drafting	3	\$ 5	3370:200	Crystallography and Non-Silicate Mineralogy	3	\$15
2940:250	Architectural Drafting	3	\$ 5	3370:202	Silicate Mineralogy and Petrology	3	\$15
2980:122	Basic Surveying	3	\$ 5	3370:210	Oceanography	3	\$ 5
2980:123	Surveying Field Practice	2	\$ 5	3370:230	Sedimentation and Stratigraphy	3	\$15
2980:222	Construction Surveying	3	\$ 5	3370:231	Structural Geology	4	\$15
2980:225	Advanced Surveying	4	\$ 5	3370:271	Introductory Invertebrate Paleontology	4	\$10
2980:226	Subdivision Design	2	\$ 5	3370:324	Field Methods in Geology	2	\$10
2980:237	Materials Testing I	2	\$10	3370:350	Regional Geology of North America	3	\$10
2980:238	Materials Testing II	2	\$10	3370:360	Glacial Geology	3	\$15
2980:245	Cost Analysis and Estimating	3	\$ 5	3370:395	Coastal Geology	3	\$10
2980:250	Structural Drafting	2	\$10	3370:410	Advanced Stratigraphy	3	\$15
				3370:411	Optical and X-Ray Methods	3	\$15
				3370:421	Petrography	3	\$15
				3370:425	Petroleum Geology	3	\$15
				3370:432	Coal Geology	3	\$15
				3370:433	Economic Geology	3	\$15
				3370:435	Exploration Geophysics	3	\$15
				3370:436	Advanced Structural Geology	3	\$15
				3370:437	Micropaleontology	3	\$15
				3370:446	Geochemistry	3	\$15
				3370:450	Groundwater Hydrology	3	\$15
				3370:463	Introduction Numerical Analysis	3	\$ 5
				3370:470	Numerical Linear Algebra	3	\$ 5
				3370:474	Numerical Solutions: Ordinary Differential Equations	3	\$ 5
				3450:427	Descriptive Computer Science	2	\$ 5
				3450:428	Introduction Basic Programming	2	\$10
				3450:429	Advanced Basic Programming	1	\$10
				3460:125	Introduction Fortran Programming	2	\$10
				3460:126	Introduction Cobol Programming	2	\$10
				3460:128	Introduction APL Programming	2	\$10
				3460:201	Introduction PL/I Programming	2	\$10
				3460:202	Introduction Pascal Programming	2	\$10
				3460:203	Introduction to C Programming	2	\$10
				3460:204	Introduction SAS Programming	2	\$10
				3460:205	Introduction Computer Science	3	\$10
				3460:206	Computer Science II	3	\$10
				3460:207	Programming Applications with Cobol	3	\$10
				3460:209	Assembly Language Programming	3	\$10
				3460:210	Applied Systems Programming	3	\$10
				3460:302	Introduction Data Structures	3	\$10
				3460:306			
				3460:307			
				3460:316			
Buchtel College of Arts and Sciences							
3100:100	Nature Study Plants	3	\$ 5				
3100:101	Nature Study Animals	3	\$ 5				
3100:104	Introduction to Ecology Laboratory	1	\$ 5				
3100:111	Principles of Biology	4	\$15				
3100:112	Principles of Biology	4	\$15				
3100:130	Principles of Microbiology	3	\$15				
3100:206	Anatomy and Physiology	4	\$15				
3100:207	Anatomy and Physiology	4	\$15				
3100:208	Human Anatomy and Physiology	4	\$15				
3100:209	Human Anatomy and Physiology	4	\$15				
3100:212	Genetics Laboratory	1	\$15				
3100:264	Anatomy and Physiology of Speech and Hearing	3	\$15				
3100:265	Introductory Human Physiology	4	\$15				
3100:331	Microbiology	4	\$15				
3100:341	Flora and Taxonomy I	3	\$15				
3100:342	Flora and Taxonomy II	3	\$15				
3100:365	Histology I	3	\$15				
3100:366	Histology II	3	\$20				
3100:384	Techniques and Instrumentation Laboratory	1	\$15				
3100:422	Conservation of Biological Resources	4	\$15				
3100:424	Freshwater Ecology	3	\$15				
3100:426	Applied Aquatic Ecology	3	\$15				
3100:433	Pathogenic Bacteriology	4	\$15				
3100:435	Virology	4	\$20				
3100:437	Immunology	4	\$15				
3100:440	Mycology	4	\$15				
3100:441	Plant Development	4	\$15				
3100:442	Plant Anatomy	3	\$15				
3100:443	Phycology	4	\$15				

3460:330	Survey of Programming Languages	3	\$10
3460:418	Introduction Discrete Structures	3	\$10
3460:420	Structured Programming	3	\$10
3460:426	Operating Systems	3	\$10
3460:428	UNIX System Programming	3	\$10
3460:430	Theory Programming Languages	3	\$10
3460:435	Analysis of Algorithms	3	\$10
3460:440	Compiler Design	3	\$10
3460:455	Data Communications and Networks	3	\$10
3460:457	Computer Graphics	3	\$10
3460:460	Artificial Intelligence and Heuristic Programming	3	\$10
3460:465	Computer Organization	3	\$10
3460:475	Data-Base Management	3	\$10
3470:260	Basic Statistics	3	\$ 5
3470:261	Introductory Statistics I	2	\$ 5
3470:262	Introductory Statistics II	2	\$ 5
3470:280	Introduction to Statistical Computing	2	\$ 5
3470:480	Statistical Computer Applications	3	\$ 5
3650:261	Physics for Life Sciences I	4	\$20
3650:291	Elementary Classical Physics I	4	\$20
3650:292	Elementary Classical Physics II	4	\$20
3650:322	Intermediate Lab I	2	\$25
3650:323	Intermediate Lab II	2	\$25
3650:451	Advanced Laboratory I	2	\$25
3650:452	Advanced Laboratory II	2	\$25
3700:201	Introduction to Political Research	3	\$10
3700:301	Advanced Political Research	3	\$10
3700:370	Public Administration: Concepts and Practices	4	\$10
3700:442	Methods of Policy Analysis	3	\$10
3850:301	Methods of Social Research I	3	\$10
3850:302	Methods of Social Research II	3	\$10

College of Engineering

All courses at the undergraduate level in the College of Engineering are assessed a minimum of a \$5 fee with the exception of the introductory courses 4200:120, 4300:130, and 4400:101. The following courses are assessed fees as listed:

4100:101	Tools of Engineering	3	\$50
4200:352	Transport Laboratory	2	\$30
4200:435	Process Analysis and Control	3	\$60
4200:454	Operations Laboratory	1	\$50
4200:466	Digitized Data and Simulation	3	\$60
4300:314	Foundation Engineering	3	\$30
4300:380	Engineering Materials Laboratory	2	\$30
4300:424	Water-Wastewater Laboratory	1	\$50
4300:448	Hydraulics Lab	1	\$30
4400:361	Electronic Design	4	\$40
4400:363	Switching and Logic	4	\$40
4400:365	Microprocessor System	3	\$40
4400:371	Control Systems I	3	\$40
4400:385	Energy Conversion Lab	2	\$40
4400:455	Microwaves	4	\$40
4400:465	Computer Circuits	4	\$40
4400:470	Microprocessor Interfacing	3	\$40
4400:472	Control Systems II	4	\$40
4600:125	Engineering Graphics	2	\$40
4600:401	Design of Energy Systems	2	\$40
4600:420	Introduction to Finite Element Method	3	\$40
4600:461	Design of Mechanical Systems	2	\$40
4600:483	Mechanical Engineering Measurements Laboratory	2	\$40
4600:484	Mechanical Engineering Laboratory	2	\$40
4980:355	Computer Applications in Construction	3	\$15
4980:358	Advanced Estimating	3	\$15
4980:470	Advanced Construction Graphics	3	\$15

College of Education

5100:150	Introduction to Professional Education	3	\$ 5
5100:310	Educational Media and Technology	3	\$10
5100:412	Design & Prod. of Inst. Mat.	3	\$10
5100:420	Intro: Comp. Based Education	3	\$10
5100:630	Top. Sem: Comp. Based Educ.	3	\$10
5200:141	Handicrafts in Elementary School	2	\$ 5
5200:321	Art for the Grades	2	\$ 5
5200:337	Teaching of Reading	3	\$10
5200:339	Principles of Diagnostic Teaching of Reading	3	\$10
5300:210	Principles of Teaching in Secondary Schools	3	\$10
5300:425	Advanced Micro App. in Secondary Schools	3	\$10
5300:445	Microcomputer Literacy for Secondary Teachers	2	\$15
5550:140	Physical Education Activities I	3	\$15
5550:193	Methods of Teaching Physical Education	3	\$15
5550:202	Physiology of Exercise	3	\$15
5550:211	First Aid	2	\$15
5550:335	Movement Experience for the Elementary Grades	2	\$10
5550:340	Care and Prevention: Athletic Injury	3	\$15
5610:470	Clinical Practicum in Special Education	3	\$10

College of Business Administration

All courses at the undergraduate level in the College of Business Administration are assessed a \$5 fee.

7100:120	Fundamentals of Sculpture	3	\$25
7100:121	Three-Dimensional Design	3	\$25
7100:130	Fundamentals of Screen Printing	3	\$25
7100:132	Instrument Drawing	3	\$ 5
7100:150	Fundamentals of Ceramics	3	\$25
7100:160	Fundamentals of Jewelry	3	\$25
7100:170	Fundamentals of Photography	3	\$25
7100:184	Introduction to Graphic Design	3	\$ 5
7100:185	Computer Graphics for Art I	3	\$20
7100:190	Fundamentals of Off-Loom Weaving	3	\$25
7100:213	Introduction to Lithography	3	\$25
7100:214	Introduction to Screen Printing	3	\$25
7100:215	Introduction to Relief Printing	3	\$25
7100:216	Introduction to Intaglio Printing	3	\$25
7100:221	Design Applications	3	\$25
7100:222	Introduction to Sculpture	3	\$35
7100:254	Introduction to Ceramics	3	\$25
7100:266	Introduction to Metalsmithing	3	\$25
7100:268	Colors in Metal	3	\$25
7100:275	Introduction to Photography	3	\$25
7100:285	Computer Graphics for Art II	3	\$20
7100:286	Commercial Design Theory	3	\$ 5
7100:288	Letterform & Typography	3	\$10
7100:293	Introduction to Fiber Arts	3	\$25
7100:317	Printmaking II	3	\$25
7100:321	Figurative Sculpture	3	\$35
7100:322	Sculpture II	3	\$35
7100:354	Ceramics II	3	\$30
7100:366	Metalsmithing II	3	\$25
7100:368	Colors in Metals II	3	\$25
7100:375	Photography II	3	\$25
7100:376	Photographics	3	\$25
7100:380	Graphic Video	3	\$25
7100:386	Packaging Design	3	\$15
7100:387	Advertising Layout Design	3	\$ 5
7100:388	Advertising Production and Design	3	\$15
7100:393	Weaving II	3	\$25
7100:418	Advanced Printmaking	3	\$25
7100:422	Advanced Sculpture	3	\$35
7100:454	Advanced Ceramics	3	\$35
7100:466	Advanced Metalsmithing	3	\$25
7100:475	Advanced Photography	3	\$25
7100:482	Corporate Identity and Graphic Systems	3	\$ 5
7100:488	Publication Design	3	\$15
7100:489	Special Topic: Studio Art	3	\$20
7100:491	Architectural Presentations I	3	\$ 5
7100:492	Architectural Presentations II	3	\$ 5
7400:121	Textiles	3	\$ 5
7400:123	Fundamentals of Construction	3	\$10
7400:133	Nutrition Fundamentals	3	\$10
7400:141	Food for the Family	3	\$25
7400:158	Introduction to Interior Design and Furnishings	3	\$10
7400:159	Family Housing	3	\$ 5
7400:219	Clothing Communication	3	\$ 5
7400:239	The Fashion Industry	3	\$ 5
7400:265	Child Development	3	\$ 5
7400:301	Consumer Education	3	\$ 5
7400:305	Advanced Construction and Tailoring	3	\$ 5
7400:310	Food Systems Management I	5	\$30
7400:311	Contemporary Needle Arts	3	\$ 5
7400:316	Science of Nutrition	4	\$10
7400:317	Historic Costume	3	\$ 5
7400:340	Meal Service	2	\$30
7400:403	Advanced Food Preparation	3	\$15
7400:414	Food Systems Management II — Clinical	3	\$60
7400:418	History of Furniture and Interiors I	3	\$ 5
7400:419	History of Furniture and Interiors II	3	\$ 5
7400:420	Experimental Foods	3	\$15
7400:429	Nutrition in Medical Science II — Clinical	3	\$60
7400:432	Interiors, Textiles, and Product Analysis	3	\$10
7400:433	Interior Design I - Residential	3	\$15
7400:434	Commercial Design	3	\$15
7400:435	Principles and Practices of Interior Design	3	\$10
7400:436	Textile Conservation	3	\$ 5
7400:447	Senior Seminar: Critical Issues in Professional Development	1	\$ 5
7400:449	Flat Pattern Design	3	\$ 5
7400:450	Demonstration Techniques	2	\$ 5
7400:459	Machine Stitchery	3	\$ 5
7400:481	Community Nutrition I	1	\$30
7400:483	Community Nutrition II	1	\$30
7500:100	Fundamentals of Music	2	\$20
7500:101	Introduction to Music Theory	2	\$20
7500:254	String Instruments Techniques I	2	\$20
7500:255	String Instruments Techniques II	2	\$20
7500:342	Winds/Percussion Instruments Techniques III	3	\$20
7600:280	Media Production Techniques	3	\$25
7600:282	Radio Production	3	\$20
7600:283	Television Production	3	\$20
7600:288	Film Production	3	\$20
7600:361	Audio Recording Techniques	3	\$20
7600:383	Advanced Television Production	3	\$20
7600:385	American Film History to 1945	3	\$15
7600:386	American Film History: 1945 to present	3	\$15
7600:488	Advanced Film Production	3	\$20
7600:489	Documentary Form in Film and Television	3	\$15
7700:350	Clinical Practicum: Articulation/Phonology	1	\$10
7700:351	Clinical Practicum: Language	1	\$10
7700:352	Clinical Practicum: Aural Rehab	1	\$10
7700:450	Assessment of Communicative Disorders	3	\$15
7700:451	Clinical Practicum: Diagnostic Audiology	1	\$10

College of Fine and Applied Arts

College of Nursing			
8200:300	Nursing: Health	10	\$50
8200:320	Nursing: Diminished Health I	12	\$50
8200:400	Nursing: Diminished Health II	12	\$60
8200:405	Health Maintenance Nursing	5	\$25
8200:415	Diminished Health Nursing	6	\$25
8200:420	Nursing: Synthesis	10	\$25
8200:425	Basic Assessment	3	\$25

College of Polymer Science and Polymer Engineering			
9871:301	Introduction to Elastomers	3	\$15
9871:302	Introduction to Plastics	3	\$15
9871:407	Polymer Science	4	\$15
9871:415	Molecular Structure and Physical Properties of Polymers Laboratory	2	\$15
9871:416	Extrusion and Molding	3	\$15
9871:417	Adhesives and Coatings	2	\$15
9871:418	Composites, Cellular Structures, and Tire Technology	4	\$15

• **Admission Application Fee:**

(Nonrefundable)

Undergraduate and postbaccalaureate	\$25
Entering postbaccalaureate and graduate student	\$25
Entering School of Law student	\$25
Guest student (first enrollment only)	\$25

• **Special Fees:**

Late Registration Fee

Charged to student who has not completed registration and paid fees before close of open registration or by final date of payment	\$25
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Delayed Registration Fee

Assessed for any continuing student (enrolled immediately preceding regular semester) who registers other than during the time specified for his or her rank/level group.	\$10
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Schedule Adjustment Fee

Assessed for any schedule change form processed in person after an initial registration occurs for a particular term.	\$ 5
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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)	\$140
One ½-hour lesson per week (undergraduate and graduate)	\$70

Student Nursing Liability Insurance Fee

\$14.50

Thesis and Binding Fees

Binding (per volume)	\$9.50
Microfilming (for Ph.D. degrees only)	\$60
Copyright	\$25

Graduation Fees (nonrefundable)

Each degree (except law)	\$30
Each Juris Doctor degree	\$40
Graduate Late Application Fee	\$10
Minor Application Fee and/or Second Major Application Fee	\$ 5

Department of Special Programs and ICE

(Course charge based on number of Continuing Education Units.)	
One CEU (10.0 contact hours)	\$41

Continuing Education

Transcript fee, first print	\$ 4
Each copy	\$ 2
Each copy of certificate of completion	\$ 4

Career Planning and Placement

Mailing of professional credentials prepared and maintained by Placement Office for students and alumni to prospective employers.	\$ 3
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• **Miscellaneous Fees:**

Health Services Allergy injections	\$5
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Counseling and Testing Center

ACT Test	\$15
ACT Special Testing	\$25
Correspondence Testing	\$10/hr
Education Administration Battery	\$20
Miller Analogies Test	\$35
Professional Consultation Fee per hour	\$75

Police Service Calls

\$10

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
Additional "Speedy" Transcript Fee	\$10
Transcript Evaluation for Certification Fee	\$15

I.D., late or lost

\$ 5

Credit by Examination

(undergraduate and postbaccalaureate) per credit	\$21
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Student teaching fee

\$30

Storage Drawer Rental for Mechanical Technology (\$2 refundable)

\$ 5

Locker fee (\$3 refundable fall-spring semesters)

\$10

Locker fee (\$3 refundable, spring semester only)

\$ 7

Locker fee, physical education and Schrank Hall (\$3 refundable) per semester

\$ 7

Laboratory breakage and late service deposit (refundable)

\$15

Instructional Material, Loss/Damage Deposit (refundable)

\$20

"Insufficient Funds" or returned check charge and VISA/Mastercard Returns for Insufficient Funds	\$20
Co-op course fee	\$55
Bypassed credit, per credit	\$ 5
CLEP, per credit awarded	\$ 5
Advanced Placement Credit, per credit awarded	\$ 5
Speech and Language Services	
Minimum Fee	\$1.50
Speech/Language Screening	\$15
Therapy (½ hour)	\$20
Speech/Language Evaluation	\$75
Counseling (½ hour)	\$20
Group Therapy (session)	\$15
Special Testing (per hour)	\$50
Audiological Services	
Minimum Fee	\$1.50
Hearing Evaluation	\$45
Hearing Aid Evaluation, Selection, Orientation	\$175
Hearing Screening (per person)	\$15
Counseling (½ hour)	\$20
Aural Rehab (½ hour)	\$20
Interpreting (per hour)	\$37.50
Immittance Only (½ hour)	\$15
Hearing Aid Recheck (½ hour)	\$20
Special Testing (per hour)	\$37.50
Industrial Screening (per person)	\$15
Brain Stem Evoked Potential	\$225
Central Audio Processing	\$100
Nursery Center	
Registration:	
Academic year	\$30
Summer session	\$10
Both summer sessions	\$15
Insurance:	
Child, per academic year	\$20
Child, per summer (ages 3-6)	\$12
Child, per summer (ages 7-12)	\$15
Enrollment:	
Full time, per week (after 45 hours, charged hourly)	\$85
Half time, per week (after 20 hours, charged hourly)	\$40
Hourly	\$2.50
Dance Institute	
Academic Year (three sessions)	
advanced	\$1,176
intermediate II	\$1,278
intermediate I	\$1,008
advanced beginner	\$378
beginner	\$378
pre-schooler	\$178
pre-schooler II	\$178
Summer (four weeks)	
advanced	\$408
intermediate II	\$360
intermediate I	\$288
advanced beginner	\$135
beginner	\$135
pre-schooler	\$58
pre-schooler II	\$58
Audition Fee	\$12
English Language Institute	
tuition fee — semester	\$2,200
10-week summer program	\$1,450
Application Fee	\$35
Materials fee, per course (minimum)	\$20
Kvam's Kinder Camp	
Enrolled Camper (total five-week fee) No transportation	\$100
Transportation provided	\$200
Rental of campground by non-profit organization:	
rental of all facilities per diem	
(includes water safety instructor)	
group size — under 25	\$55
25-50	\$65
51-75**	\$85
76 and over**	\$110
rental of all facilities per diem	
(except swimming pool)	
group size — under 25	\$40
25-50	\$50
51-75**	\$70
76 and over**	\$85
rental of building only per diem	
group size — under 25	\$25
25-50	\$35
51-75**	\$55
76 and over**	\$70

*First three hours; \$100 each additional hour.

**The University will provide additional restroom facilities.

‡First three hours; \$50 each additional hour.

Hower House	
Rental per event (non-University)	\$300*
University departments and registered student organizations	\$100‡
Wedding or reception	\$300*
Meetings (M, T, Th for 3 hrs. between 9 a.m.-3 p.m.)	
Non-University	\$100
University departments and registered student organizations	\$50
Ocasek Natatorium and Memorial Hall Pool	
Facility Guest Fees	
Single-visit guest pass	\$ 3
Multi-use guest passes	
10 visits	\$18
25 visits	\$40
University Spouse and Dependent	
Photo ID card	\$ 5
Facility use	No charge
Group Rental Fees	
University groups	
during open building hours	No charge
exclusive or special use	\$5/hr.
Community, individual or business rental	
25-yard lane in pool	\$ 5/hr
Racquetball court	\$ 5/hr
Weight room	\$25/hr
Entire facility	\$100/hr
Shooting Facility Use	
Univ. depts. and student organizations	No charge
Non-University groups:	
1 hour	\$20
4 hours	\$60
8 hours	\$120
Junior and Non-profit clubs, per use	\$20
• Parking Fees:	
Student enrolled for 5 or more credits per semester	\$50
Student enrolled for less than 5 credits per semester	\$30
Summer session student, per session	\$17.75
Workshop participant	\$2 per day up to \$16
Department of Noncredit Courses	
7 weeks	\$8.50 per course
15 weeks	\$17 per course
Off-campus Instruction Student	\$16
Temporary Permit (per week)	\$3.75
(per day)	\$75
Conference participant, per day	\$ 2
Commercial visitor, per semester	\$50
per week	\$3.75
per summer	\$31
Replacement parking permit service charge	\$ 5
Special University event parking, per event	\$ 2
Special non-Univ. event parking, per event	\$ 5
Visiting Parking:	
meter, per hour	.25
pre-arranged permit less than 4 hours	\$ 1
pre-arranged permit more than 4 hours	\$ 2
Motorcycle if purchased in conjunction with regular vehicle permit:	
per semester	\$ 4
per summer session	\$ 4
Motorcycle if purchased as sole vehicle permit:	
per semester	\$25
per summer session	\$10
• Parking Fines:	
for most infractions (Sections (J) (1) (A) through (J) (1) (K) of the Parking Regulations)	
If paid within 5 University business days	\$ 5
If paid thereafter	\$ 8
For ignoring parking attendant's directions or parking in handicapped space (Sections (J) (1) (L) and (J) (1) (M) of the Parking Regulations)	
If paid within 5 University business days	\$15
If paid thereafter	\$15
For displaying a false, altered, or forged permit	\$50
Boot Fee	\$20
• Student Orientation Program Fees	
Traditional Freshman Program	
Student Commuting to Program	\$40
Student Staying in Residence Halls	\$50
Transfer Student and Non-Traditional Student Program	
One-day Program	\$15
Traditional Freshman Parents Program	
Two-day Program, Parent Staying in Residence Halls	\$40
Two-day Program, Commuting	\$25
One-day Program, Commuting	\$15
Traditional Freshman Spring Program	
One-day Program	\$15

Installment Payment Plan

This plan is designed to spread registration and University housing fees into as many as four installments depending on when the application is received. A service charge of \$17 per semester for registration fees and \$17 per semester for University housing fees is assessed for the Installment Payment Plan. If a payment is not received on the due date, a late payment penalty is assessed at \$20 per payment for registration fees or \$40 per payment if University housing is included. These fees are subject to change.

For applications received up to and including the published semester fee deadline, a 30% down payment is required. Applications received after the fee deadline and up to the first day of classes will require a one-half down payment. Subsequent installments are due approximately 30 and 60 days after the start of classes.

This plan is not offered during Summer Sessions. Application forms may be obtained in Spicer Hall or by calling (216) 972-5100.

Special Payment Arrangments

Charged to students who are not participating in Installment Payment Plan but who require special payment terms to pay off a new or existing accounts receivable (per installment service charge).

Amount of Installment	\$ 0	to	\$ 300	\$10.00
	301	to	600	15.00
	601	to	900	20.00
	901	to	1,200	25.00
	1,201	and	over	30.00

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 \$1,680 per semester or \$3,360 per year. All students who live in the residence halls must participate in one of the provided board plan options.

A student living off campus may participate in the residence hall board program, the current rate being \$625 per semester.

Veterans Expenses

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

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

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

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

Auditors

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

Student Health and Accident Insurance

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



THE UNIVERSITY OF AKRON RESIDENCY REQUIREMENTS

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

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

A. Intent and Authority

1. It is the intent of the Ohio board of regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.
2. This rule is adopted pursuant to Chapter 119 of the Revised Code, and under the authority conferred upon the Ohio board of regents by Section 3333.31 of the Revised Code.

B. Definitions

For purposes of this rule:

1. A "resident of Ohio for all other legal purposes" shall mean any person who maintains a 12-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subjected to tax liability under Section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.
2. "Financial support" as used in this rule, shall not include grants, scholarships, and awards from persons or entities which are not related to the recipient.
3. An "institution of higher education" as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the state of Ohio.
4. For the purpose of determining residency for tuition surcharge purposes at Ohio's state-assisted colleges and universities, "domicile" is a person's permanent place of abode; there must exist a demonstrated intent to live permanently in Ohio, and a legal ability under federal and state law to reside permanently in the state. For the purpose of this policy, only one (1) domicile may be maintained at a given time.

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

C. Residency for subsidy and tuition surcharge purposes

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

1. A dependent student, at least one of whose parents or legal guardian has been a resident of the state of Ohio for all other legal purposes for 12 consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.
2. A person who has been a resident of Ohio for the purpose of this rule for at least 12 consecutive months immediately preceding his or her enrollment in an institution of higher education and who is not receiving, and has not directly or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
3. A dependent child of a parent or legal guardian or the spouse of a person who, as of the first day of a term of enrollment, has accepted full-time self-sustaining employment and established domicile in the State of Ohio for reasons other than gaining the benefit of favorable tuition rates.

Documentation of full-time employment and domicile shall include both of the following documents:

- a. A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that parent or spouse of the student is employed full-time in Ohio.
- b. A copy of the lease under which the parent or the spouse is the lessee and occupant of rented residential property in the state; a copy of the closing statement on residential real property located in Ohio of which parent or spouse is the owner and occupant; or if parent or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that parent or spouse resides at that residence.

D. Additional criteria which may be considered in determining residency for the purpose may include but are not limited to the following:

1. Criteria evidencing residency:
 - a. if a person is subject to tax liability under Section 5747.02 of the Revised Code;
 - b. If a person qualifies to vote in Ohio;
 - c. if a person is eligible to receive state welfare benefits;
 - d. if a person has an Ohio driver's license and/or motor vehicle registration.
2. Criteria evidencing lack of residency:
 - a. if a person is a resident of or intends to be a resident of another state or nation for the purposes of tax liability, voting, receipt of welfare benefits, or student loan benefits (if the loan program is only available to residents of that state or nation);
 - b. If a person is a resident or intends to be a resident of another state or nation for any purpose **other** than tax liability, voting, or receipt of welfare benefits.

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

1. A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education.
2. A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.
3. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.
4. A person who is transferred by his or her employer beyond the territorial limits of the fifty states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.
5. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

F. Procedures

1. A dependent person classified as a resident of Ohio for these purposes and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the State of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.
2. In considering residency, removal of the student or the student's parents or legal guardian from Ohio shall not, during a period of 12 months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraphs C. 1. or C. 2. of this rule.
3. For students who qualify for residency status under C.3., residency status is lost immediately if the employed person upon whom resident student status was based accepts employment and establishes domicile outside Ohio less than 12 months after accepting employment and establishing domicile in Ohio.
4. Any person once classified as a nonresident, upon the completion of 12 consecutive months of residency, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.
5. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.
6. Any institution of higher education charged with reporting student enrollment to the Ohio board of regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of his or her Ohio residency for purposes of this rule. Such an institution may require the submission of affidavits and other documentary evidence which it may deem necessary to a full and complete determination under this rule.

- In full
 - if the University cancels the course;
 - if the University does not permit the student to enroll or continue;
 - if the student dies before or during the term or is drafted into military service by the United States; or if the student enlisted in the National Guard or Reserve prior to the beginning of the term called to active duty, presents notice of induction or orders to Active Duty. A student who enlists voluntarily for active duty should see "in part" below.
- In part
 - less \$5 per enrolled credit to a maximum of \$50 if the student requests in writing to the dean or designate official withdrawal from all credit courses on or before the second day of the enrolled term.
 - if the student requests in writing to the dean or designate official withdrawal after the second day of the fall or spring semesters, the following refund percentages apply:

3 through 12 calendar days*	70%
13 through 24 calendar days*	50%
25 through 33 calendar days*	30%
Thereafter	0%
 - if the student requests in writing to the dean or designate official withdrawal after the second day of any Summer Session the following refund percentages apply:

3 through 7 calendar days*	60%
8 through 15 calendar days*	40%
Thereafter	0%
- Refunds for course sections which have not been scheduled consistent with either the standard 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 official withdrawal unless proof is submitted that circumstances beyond control of the student prevented the filing of the formal withdrawal earlier, in which case the refund will be determined as of the last day of attendance. The student assumes responsibility for filing for a refund.
- Refunds will be mailed as soon as possible. Refund checks are subject to deduction for any amount owed to The University of Akron by the student.
- No refund will be granted to a student dismissed or suspended for disciplinary reasons.

Amount of Refund—Noncredit

- In full less \$5
 - upon written request of the student who is officially withdrawn from any course before the first class meeting.
- In part

<i>Courses of 6 to 11 weeks:</i>	
After the first class meeting	60%
After the second class meeting	30%
After the third class meeting	0%
<i>Courses of 12 weeks or more:</i>	
After the first class meeting	60%
After the second class meeting	45%
After the third class meeting	30%
After the fourth class meeting	0%
- No refund on courses of less than six weeks.

Refunds will be determined by the date (postmark of written request) of formal withdrawal, unless proof is submitted that 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.

Regulations Regarding Refunds—Credit/Noncredit

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

Fees Subject to Refund—Credit

Certain fees are subject to refund.

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

Amount of Refund—Credit

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

*If the 7th, 12th, 15th, 24th, or 33rd day falls on Friday, Saturday or a holiday, the deadline will become the next business day.

RESIDENCE HALL REFUNDS

Refund/Release and Forfeiture Policy

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

- A full refund of any prepaid fees and release of other financial liability therefore under the following circumstances: graduation of the student from The University of Akron; academic dismissal of the student from The University of Akron; non-attendance or complete withdrawal by the student from The University of Akron prior to the start of the contract term (except the advance rental payment of \$150 which shall be forfeited); or, in the event of mandatory or recommended participation in academic programs of The University of Akron requiring the student to commute regularly beyond the Akron metropolitan area (e.g., student teaching or co-op engineering assignments).
- A partial refund of prepaid fees according to the refund schedule below, and release of financial liability for subsequent semesters covered by the contract term, in the event the student completely withdraws from The University of Akron after the start of the contract term. In such instances, the student shall not be liable for further forfeiture.
- A partial refund of prepaid fees according to the refund schedule below: First, in the event the University, in its sole discretion, terminates the contract for reasons related to the orderly operation of the residence halls, or for reasons relating to the health, physical, or emotional safety and well-being of the student, or property of other students, faculty, staff, or University property. In such instances, the student shall not be liable for further forfeitures and shall be released of further financial liability beyond the date of termination. Second, in the event the student breaches the contract for any reason, except when under dismissal or suspension, prior to the end of the terms thereof but continues to be enrolled as a student at The University of Akron. In addition, if the student has contracted for any subsequent semester beyond that semester in which the contract is terminated, the student shall pay as forfeiture for breach of the term of the contract an addi-

tional amount of \$200. Last, in the event that the student is dismissed or suspended from The University of Akron for disciplinary reasons in accordance with laws or rules and regulations of the Board of Trustees; or, if the student is placed on terms of disciplinary probation in accordance with law or rules and regulations of the Board of Trustees, whereby such terms of probation prohibit the student from residing in University housing accommodations.

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

Refund Schedule

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

<i>Inclusive Dates</i>	<i>Refund Applicable*</i>
1-12 calendar days	70%
13-24 calendar days	50%
25-36 calendar days	30%
Thereafter	0%

*Subject to some modifications to accommodate board plan options.

Notice Requirements

All notices of intent to break this contract must be submitted in writing to the Office of Residence Halls. If the student is a minor (under the age of 18 years), the written notification of termination must be cosigned 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 postsecondary education to assist students from families with limited resources to meet educational expenses. The primary purpose of financial aid is to ensure that no one is denied the opportunity of a college education because of financial need.

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

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

Sources of Aid

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

Federal Programs

Pell Grant

The Pell Grant is the foundation of student financial aid. The grant is awarded to the student by the federal government. After applying for the grant, the student will receive a Student Aid Report (SAR) which must be taken to the Office of Student Financial Aid. The office then calculates the amount of the grant which is based on financial need and enrollment status (full or part time).

Supplemental Educational Opportunity Grant

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

College Work-Study Program

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

Perkins Loan

The Perkins Loan 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 federal loan must be repaid, beginning nine months after ceasing to be at least a half-time student. Interest at five percent is calculated at the time repayment of the loan begins. If the student is teaching in certain fields or locations after graduation, eligibility for cancellation of all or part of the amount that was borrowed is possible. Entering freshmen and continuing students must have a 2.00 grade-point average to be eligible for the Perkins Loan.

Stafford Loan (formerly Guaranteed Student Loan)

This program offers low-interest, long-term loans to an eligible student on the basis of financial need. After completing the FAF, application for the loan can be made at a bank, savings and loan, or credit union. This loan must be repaid to the lender beginning six months after ceasing to be at least a half-time student. The interest during repayment is eight percent for new borrowers for the first four years, then graduates to 10 percent. While the student is in school, the interest is paid by the federal government.

Nursing Student Loan

A low-interest federal loan is available to an eligible student who is pursuing the Bachelor of Science in Nursing. It is based on need, and the amounts are determined by the Office of Student Financial Aid. Repayment begins nine months after ceasing to be a half-time student. Interest upon repayment is five percent.

PLUS/Supplemental Loan

This loan is available to parents, independent students, and all graduate/professional students. Unlike the other federal loan programs, eligibility is *not* based on financial need. Low monthly payments for this variable-interest rate loan, however, begin 30-60 days after loan receipt unless alternative arrangements are made with the lender. Apply through a bank, savings and loan, or credit union.

ROTC Scholarships

Two- and three-year scholarships paying tuition, fees, flat rates for books each semester, and subsistence allowances of \$100 per month are available to full-time students. Contact the Army or Air Force offices for additional information.

State Programs

Ohio Instructional Grant (OIG)

The OIG is available to an eligible student who is an Ohio resident. 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 must be taken to the financial aid office.

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 Scholarship Application must be submitted, but a need analysis form is not required. The majority of awards are \$500.

The **Presidential Scholarship Program** was initiated for the 1975/76 academic year. Currently, approximately 60 scholarships are awarded each year to new freshmen.

The **Honors Program** at the University awards a number of scholarships each year to new freshmen.

National Merit Finalists are awarded full scholarships for the freshmen year.

Installment Payment Plan

The University offers an installment payment plan (IPP) to the student who needs temporary help in paying tuition and housing. This must be repaid in full before the end of the term for which the money was borrowed. Information and applications are available at the IPP Office (Spicer Hall 51) (216) 972-5100.

Special long-term loans are available to selected students in certain fields who need partial help.

Student Employment

Check the "Student Job Board" near Spicer Hall 119 for on- and off-campus part-time job listings. Register for the applicant pool in Room 119.

Application for Financial Aid

- To apply for the Pell Grant, Supplemental Educational Opportunity Grant, Perkins Loan, Nursing Student Loan, Stafford Loan, and the College Work-Study Program, the student must complete and submit the Financial Aid Form (FAF) to the College Scholarship Service.
- 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 Stafford Loan application is secured through lending institutions such as the local bank, savings and loan associations, or credit unions. This should be given to the Office of Student Financial Aid when the FAF Acknowledgement Form is received.
- Applications are available in January for the following school year.

Computation of Financial Aid

Government formulas determine what the family may be able to contribute toward the student's education. This amount is called the family contribution. Some of the key factors involved in computing the family contribution are as follows:

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

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

**Notification of Award**

A student will be notified of the aid package by a Financial Aid Award Proposal sent to the mailing address. 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 Award Proposal*, either call or write the office for clarification.

If denied aid, (the family contribution exceeds the cost of education), the student will be informed by mail. Advisement as to alternatives such as the PLUS/Supplemental Loan and/or University loans, will be made.

Distribution of Aid

Financial aid will be applied directly to the tuition fee invoice. Awards are based on full-time enrollment (12 semester credits). If the student is not taking at least 12 credits, contact the Office of Student Financial Aid and Employment so that financial aid may be adjusted.



The student is awarded aid for the entire academic year; however, the aid is disbursed proportionately each semester. A booklet giving specific instructions will be included with the student's award proposals.

If the student's aid exceeds the direct costs, the difference is given to the student prior to the beginning of each semester to assist with other educational expenses such as transportation, housing, books, etc.

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

Revision of Awards

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

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

Eligibility for Aid as it Applies to Certain Classifications of Students**Transfer Students**

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

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

- Request a duplicate Student Aid Report from Pell Grant. This duplicate Student Aid Report must be sent to the Office of Student Financial Aid 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.

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

Graduate Students, Law Students and Postbaccalaureate Students

A student who has already received a bachelor's degree can apply for the Perkins Loan, Stafford Loan, PLUS or Supplemental Loan, and the College Work-Study Program. The Pell Grant, Ohio Instructional Grant and Supplemental Educational Opportunity Grant may not be received.

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

Guest Students

A guest student is one who is taking classes at The University of Akron but will receive the degree at another institution. Contact the Office of Student Financial Aid for written instructions on how to receive financial aid.

International Students

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



Veterans

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

Student Rights and Responsibilities

A student who applies for student financial aid has the right to expect confidentiality regarding all personal information. After submitting applications, the student should expect to receive a reply in a reasonable amount of time. It is the student's responsibility to notify the Office of Student Financial Aid of any changes in name, address, graduation plans, etc. A student must also report any outside scholarships received. It is the student's responsibility to be aware of the types and amounts of aid received.

Standards of Satisfactory Progress

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

Inquiries

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

Office of Student Financial Aid and Employment
Spicer Hall 115
The University of Akron
Akron, OH 44325-6211
Phone: (216) 972-7032



SECTION

Four

Undergraduate
academic programs

F A C T S

University of Akron alumni include many leaders of business and industry. Five current or recently retired CEOs holding UA degrees:

- Robert Broadbent ('46), Higbee Company
- Lester Coleman ('52), Lubrizol Corporation
- William Fitzgerald ('50), Cooper Tire & Rubber Company
- Arnold Bellowe ('58), Forest City Auto Parts
- Robert Handleman ('70), Chemstress Consultant Company

Community and Technical College

Frederick J. Sturm, Ed.D., *Dean*

Minnie C. Pritchard, M.S.T.E., *Associate Dean*

Holly C. Clark, M.Ed., *Assistant to the Dean, Advising Services*

OBJECTIVES

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

- The college serves the student by providing the means to examine academic and career opportunities considering interests, abilities and achievements.
- The college provides for industry, business, government agencies, health-care establishment and human service occupations; pre-service and in-service training for entry-level positions or advancement in employment.
- Consistent with the philosophy of learning as a life-long experience, the college provides educational opportunities for the student no matter the age, background and need; full- or part-time, day or evening.
- The college provides quality instruction with qualified and experienced teachers who are encouraged to use the community as a "laboratory" for achieving educational goals.

The college recommends each student for the appropriate degree in accordance with the level of accomplishment.

The college offers both pre-service and in-service training; pre-service for the recent high school graduate who can receive an associate degree upon the satisfactory completion of two years of full-time studies; and in-service through evening courses where employed persons may pursue the same degrees while working full time. The college also offers some bachelor's degree programs.

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 automated manufacturing technology, 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 Automated Manufacturing Technology, the Bachelor of Science in Electronic Technology, or the Bachelor of Science in Mechanical Technology are as follows:

- Compliance with the general University requirements for a baccalaureate degree as listed in this *Bulletin*.
- Compliance with the requirements of the general studies program as outlined in this *Bulletin*.
- Completion of the requirements for the associate degree in a related engineering technology at The University of Akron or other accredited institution.
- Successful completion of a minimum of 132 credits in BSAMT, 135 credits in BSMT, and 137 in the BMT Program including associate degree program, general studies courses, and the following course requirements.

Bachelor of Science in Automated Manufacturing Technology

		Credits
1100:112	English Composition	4
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:33-	World Civilizations	2
1100:33-	World Civilizations	2
1100:106	Effective Oral Communications	2
	or	
2040:247	Survey of Basic Economics	3
2030:345	Basic Techniques for Data Analysis	2
2030:356	Mathematics for Engineering Technology III	3
2820:210	Fortran for Technologists	2
2840:101	Introductory Chemistry	3
2870:311	Computer Aided Drafting II	2
2870:420	Materials and Processes	2
2870:458	Advanced CNC Programming	3
2870:470	Simulation of Manufacturing Systems	2
2870:480	Automated Manufacturing	2
2870:490	Senior Project	2
2920:310	Economics of Technology	3
2920:348	CNC Programming I	3
2920:448	CNC Programming II	3
2940:210	Computer Drafting	3
6500:301	Management: Principles and Concepts	3
6500:331	Production and Systems Management	3
6500:435	Quality Control	3
	Technical Electives	5

Bachelor of Science in Electronic Technology

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

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

Third- and fourth-year requirements:		Credits
1100:106	Effective Oral Communication	3
1100:112	English Composition	4
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:---	World Civilizations	2
1100:---	World Civilizations	2
2030:345	Basic Techniques for Data Analysis	2
2030:356	Mathematics for Technical Applications	3
2840:101	Introductory Chemistry	3
2860:350	Advanced Circuit Theory	3
2860:352	Microprocessor Systems	4
2860:354	Advanced Circuit Applications	4
2860:400	Computer Simulations in Technology	3
2860:406	Communications Systems	3
2860:453	Control Systems	4
2920:310	Economics of Technology	3
3460:201	Introduction to FORTRAN Programming	
	or	
3460:205	Introduction to Pascal	2
	or	
2820:210	Fortran for Technologists	
6500:301	Management Principles and Concepts	3
6500:331	Production and Systems Management	3
	Technical Electives	5
	Electronic Technology Electives:	
2860:451	Industrial Electronic Systems	
	or	
2860:420	Biomedical Electronic Instrumentation	3
	or	
2860:430	Senior Topics in Electronic Technology	

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

Bachelor of Science in Mechanical Technology

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

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

Third- and fourth-year requirements:		Credits
1100:112	English Composition	4
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:---	World Civilizations	2
1100:---	World Civilizations	2
2030:356	Math for Engineering Technology III	3
2040:247	Survey of Basic Economics	3
2820:310	Fortran for Technologists	2
2840:101	Introductory Chemistry I	3
2840:102	Introductory and Analytical Chemistry	3
2860:270	Survey of Electronics I	3
2860:271	Survey of Electronics II	3
2880:241	Intro to Quality Assurance	3

2920:310	Economics of Technology	3
2920:346	Mechanical Design III	4
2920:347	Production Machinery and Processes	3
2920:348	CNC Programming I	3
2920:402	Mechanical Projects	1
2920:405	Introduction to Industrial Machine Control	3
2920:448	CNC Programming II	3
6500:301	Management Principles and Concepts	3
	Technical Electives	5

Prior to enrolling in the program, a student must have completed at least 45 credits of the two-year program with a grade-point ratio of 2.00 or higher in *Math for Engineering Technology*, *Technical Physics* and technical courses (2920 series) in the two-year program; and a minimum overall grade-point ratio of 2.00.

Associate Degrees

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

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

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

Requirements for Graduation

Candidates for the associate degree must have the following:

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

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

Cooperative Education

Minimum requirements for cooperative education students include the following:

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

Minor Areas of Study

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

PROGRAMS OF INSTRUCTION

Allied Health

2730: Histologic Technology*

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

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:151	Elements of Math II	2
2030:153	Elements of Math III	2
2040:240	Human Relations	3
2040:242	American Urban Society	3
2730:225	Histotechnology Practicum	5
2740:120	Medical Terminology	3
2840:101	Introduction to Chemistry	3
2840:102	Introductory and Analytical Chemistry	3
3100:111	Principles of Biology	4
3100:112	Principles of Biology	4
3100:130	Principles of Microbiology	3
3100:265	Introduction to Human Physiology	4
3100:365	Histology I	2
3100:366	Histology II	3
3100:383	Laboratory Techniques and Instrumentation in Biology	2
3100:384	Techniques and Instrumentation Laboratory in Biology	1
3100:342	Sociology of Health and Illness	3
	Electives	3

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.

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	4
2040:244	Death and Dying	2
2420:211	Basic Accounting I	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:129	Information/Records Management	3
2540:130	Introduction to Information Management	3
2540:151	Intermediate Keyboarding	3
2740:100	Introduction to Medical Assisting	2
2740:120	Medical Terminology	3
2740:121	Study of Disease Process for Medical Assisting	2
2740:135	Medical Assisting Techniques I	4
2740:230	Basic Pharmacology	3
2740:235	Medical Assisting Techniques II	4
2740:240	Medical Machine Transcription	3
2740:241	Medical Records	3
2740:260	Externship in Medical Assisting	3
2780:106.7	Anatomy and Physiology for Allied Health I, II	6
5550:211	First Aid	2
	General Electives	2

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 as follows:

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2030:130	Introduction to Technical Mathematics	3
2040:240	Human Relations	3
2780:106	Anatomy and Physiology for Allied Health I	3
	or	
3100:206	Anatomy and Physiology	4
2780:107	Anatomy and Physiology for Allied Health II	3
	or	
3100:207	Anatomy and Physiology	4
2760:161	Basic Physical Science for Radiologic Technology	2
2760:165	Radiographic Principles	3
2760:261	Physical Science for Radiologic Technology	3
3750:100	Introduction to Psychology	3
	General Electives	2
	Credits for Hospital Program	41

Radiology schools at the following hospitals are affiliated with the University:

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

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

*Limited enrollment program, contact college for details.

2770: Surgical Assisting Technology*

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

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2030:130	Introduction to Technical Mathematics	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2740:120	Medical Terminology	3
2740:230	BASIC Pharmacology	3
2770:100	Introduction to Surgical Assisting Technology	4
2770:121	Surgical Assisting Procedures I	2
2770:131	Clinical Application I	2
2770:148	Surgical Anatomy I	3
2770:222	Surgical Assisting Procedures II	4
2770:232	Clinical Application II	5
2770:233	Clinical Application III	5
2840:100	Basic Chemistry	3
3100:130	Principles of Microbiology	3
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
	General Elective	2
	Technical Electives	2

Surgeon's Assistant Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3
2040:242	American Urban Society	3
2740:120	Medical Terminology	3
2740:230	BASIC Pharmacology	3
2770:100	Introduction to Surgical Assisting Technology	4
2770:121	Surgical Assisting Procedures	2
2770:148	Surgical Anatomy I	3
2770:151	Clinical Experience I	2
2770:152	Clinical Experience II	3
2770:153	Clinical Experience III	5
2770:243	Introduction to Medicine	2
2770:244	Medical History and Physical Evaluation	2
2770:245	Roentgenogram Assessment	1
2770:246	Medical Laboratory Procedures	1
2770:247	Pulmonary Assessment and Electrocardiography	2
2770:254	Clinical Experience IV	3
2770:255	Clinical Experience V	5
2770:256	Primary Care: Clinical Experience	2
3100:130	Principles of Microbiology	3
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
	General Electives	3

2790: Respiratory Care*

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. Selective admission.

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:130	Introduction to Technical Mathematics	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2780:106.7	Anatomy and Physiology for Allied Health I, II	6
2790:121	Introduction to Respiratory Care	3
2790:122	Respiratory Patient Care	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	Pathology for Respiratory Care	2
2790:201	Anatomy and Physiology: Cardiopulmonary System	3
2790:223	Advanced Respiratory Care	3
2790:224	Pulmonary Rehabilitation and the Respiratory Care Department	2
2840:100	Basic Chemistry	3
3100:130	Principles of Microbiology	3

Associate Studies**2020: Arts**

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

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
1100:112	English Composition II	4
1100:—	Science Requirement†	6
1100:—	World Civilizations	2
1100:—	World Civilizations	2
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
2020:121	English	4
2040:240	Human Relations††	3
2040:242	American Urban Society††	3
2040:247	Survey of Basic Economics††	3
3450:—	Modern University Mathematics	3
	Electives	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 course work from various disciplines and focuses on education for individual development.

2240: Commercial Art

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

1100:—	Physical Education	1
2020:121	English	4
2030:151	Elements of Math I	2
2030:152	Elements of Math II	2
2040:240	Human Relations	
	or	
2040:251	Human Behavior at Work	3
2240:122	Introduction to Commercial Photography	4
2240:124	Design in Commercial Art	4
2240:128	Drawing for Designers	4
2240:130	Marker Rendering	4
2240:140	Typography and Lettering	4
2240:242	Advertising Layout Design	4
2240:245	Designing for Production	4
2240:247	Packaging Design	4
2240:248	Publication Design	4
2240:253	Professional Design Practices	4
2440:120	Computer and Software Fundamentals	2
7100:275	Introduction to Photography	3
	Technical Studio Electives	4
	General Electives	4

The four hours of Technical Studio Electives must come from the following list of courses:

2240:110	Multi-image Production	4
2240:210	Portrait/Fashion Photography	4
2240:224	Illustration/Advertising Photography	4
2240:250	Advanced Commercial Photography	4
2240:252	Professional Photographic Practices	4
2240:290	ST: In Commercial Art (all listings)	1-4
	ST: Offset Lithography	4
	ST: Beginning Typesetting	4
2240:295	Practicum in Commercial Art	1-4
2520:103	Advertising Principles	3
7100:131	Introduction to Drawing	3
7100:132	Instrument Drawing	3
7100:185	Computer Graphics for Art I	3
7100:214	Introduction to Screen Printing	3
7100:215	Introduction to Relief Printing	3
7100:216	Introduction to Intaglio Printing	3
7100:246	Introduction to Watercolor Painting	3
7100:233	Life Drawing	3
7100:283	Drawing Techniques	3
7100:285	Computer Graphics for Art II	3
7100:317	Printmaking II	3
7100:375	Photography II	3
7100:380	Graphic Video (not currently offered)	3
7100:482	Corporate Identity & Graphic Systems	3
7100:484	Illustration	3
7100:485	Advanced Illustration	3
7100:489	ST: Airbrush Painting	3
7100:480	Advanced Graphic Design	3
7100:491	Architectural Presentations I	3
7100:492	Architectural Presentations II	3

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

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

*Deadline for application to the program is March 15.

It is recommended that the four hours of General Electives for both Commercial Art and Commercial Photography majors come from the following list of courses:

2020:222	Technical Report Writing	3
2020:224	Writing for Advertising	4
2040:240	Human Relations	3
2040:241	Technology and Human Values	2
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2040:251	Human Behavior at Work	3
2040:254	The Black American	2

Commercial Photography Option

1100:—	Physical Education	1
2020:121	English	4
2030:151	Elements of Math I	2
2030:152	Elements of Math II	2
2040:240	Human Relations	
	or	
2040:251	Human Behavior at Work	3
2240:110	Multi-Image Production	4
2240:122	Intro to Commercial Photography	4
2240:124	Design in Commercial Art	4
2240:128	Drawing for Designers	4
2240:140	Typography and Lettering	4
2240:210	Portrait/Fashion Photography	4
2240:224	Illustration/Advertising Photography	4
2240:245	Designing for Production	4
2240:250	Advanced Commercial Photography	4
2240:252	Professional Photographic Practices	4
2440:120	Computer and Software Fundamentals	2
7100:275	Introduction to Photography	3
	Technical Studio Electives	4
	General Electives	4

The 4 hours of Technical Studio Electives for Commercial Photography majors must come from the following list of courses:

2240:130	Marker Rendering	4
2240:242	Advertising Layout Design	4
2240:247	Packaging Design	4
2240:248	Publication Design	4
2240:290	ST. (Any and all listings)	1-4
2240:295	Practicum in Commercial Art	1-4
2520:103	Advertising Principles	3
7100:131	Introduction to Drawing	3
7100:132	Instrument Drawing	3
7100:185	Computer Graphics for Art I	3
7100:214	Introduction to Screen Printing	3
7100:215	Introduction to Relief Printing	3
7100:216	Introduction to Intaglio Printing	3
7100:233	Life Drawing	3
7100:246	Introduction to Watercolor Painting	3
7100:282	Architectural Presentations I	3
7100:283	Drawing Techniques	3
7100:285	Computer Graphics for Art II	3
7100:317	Printmaking II	3
7100:375	Photography II	3
7100:380	Graphic Video	3
7100:480	Advanced Graphic Design	3
7100:482	Corporate Identity and Graphic Systems	3
7100:484	Illustration	3
7100:485	Advanced Illustration	3
7100:489	Special Topic: Airbrush Painting	3
7100:491	Architectural Presentations I	3
7100:492	Architectural Presentations II	3

Associate of Technical Study

The Associate of Technical Study (ATS) program will be available to students whose educational objectives and interests cannot be met through one of the formal associate degree programs. It is expected that these students will be primarily non-traditional students.

Requirements

- Completion of the ATS application including the selection of a minimum of one and a maximum of three major areas of study with a reasonable selection of courses from each area.
- Approval of the ATS application by the ATS coordinator, the faculty in the appropriate division(s), the ATS Committee, the dean of the C&T College.
- Application towards the degree of only that transfer course category and 14 semester credits in the basic course category.
- Completion of at least one half of the technical courses taken at The University of Akron, in the approved area(s) of study at the 200 level or higher, to be equally divided among the selection areas, where applicable.
- Completion of a minimum total of 64 semester credits with a grade point average of 2.0
- Completion of all other University of Akron graduation requirements.

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	1
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2280:120	Safety and Sanitation	3
2280:121	Fundamentals of Food Preparation I	4
2280:122	Fundamentals of Food Preparation II*	4
2280:123	Meat Technology*	2
2280:135	Menu Planning and Purchasing	3
2280:232	Dining Room Service and Training*	2
2280:233	Restaurant Operations and Management	4
2280:238	Cost Control Procedures	3
2280:237	Internship	1
2280:240	Systems Management and Personnel	3
2280:243	Food Equipment and Plant Operations	3
2280:265	Beverage Operations	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
	or	
2540:263	Business Communications	3
2420:280	Essentials of Law	3
2520:103	Principles of Advertising	3
	or	
2440:120	Computer and Software Fundamentals	2**
2540:119	Business English	3

Culinary Arts

1100:—	Physical Education	1
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2280:120	Safety and Sanitation	3
2280:121	Fundamentals of Food Preparation I	4
2280:122	Fundamentals of Food Preparation II	4
2280:123	Meat Technology	2
2280:135	Menu Planning and Purchasing	3
2280:160	Wine and Beverage Service	2
2280:232	Dining Room Service and Training	2
2280:238	Cost Control Procedures	3
2280:237	Internship	1
2280:233	Restaurant Operations and Management	4
2280:240	Systems Management and Personnel	3
2280:261	Baking and Classical Desserts	3
2280:262	Classical Cuisine	3
2280:263	International Foods	2
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
	or	
2540:263	Business Communications	3
2420:280	Essentials of Law	3
2540:119	Business English	3
7400:133	Nutrition Fundamentals	3

Hotel/Motel Management

1100:—	Physical Education	1
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2230:153	Principles of Fire Protection and Life Safety	3
2280:120	Safety and Sanitation	3
2280:135	Menu Planning and Purchasing	3
2280:150	Front Office Procedures	3
2280:152	Maintenance and Engineering Management	3
2280:232	Dining Room Service and Training	2
2280:237	Internship	1
2280:238	Cost Control Procedures	3
2280:240	Systems Management and Personnel	3
2280:254	Hotel/Motel Housing Management	3
2280:255	Hotel/Motel Sales Promotion	3
2280:256	Hospitality Law	3
2280:265	Beverage Operations	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
	or	
2540:263	Business Communications	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2**
	or	
2520:103	Principles of Advertising	3
2540:119	Business English	3

Marketing and Sales Emphasis

2520:202	Retailing Fundamentals	3
2520:212	Principles of Sales	3

*Course is not transferable to College of Business Administration.

**Students enrolled in 2440:120 Computer and Software Fundamentals must complete two semesters of 2280:237 Internship.

2420: Business Management Technology

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

Options**General**

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:103	Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:121	Office Management	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2540:119	Business English	3
2540:125	Electronic Business Calculations	2
2540:263	Business Communications	3
2560:110	Principles of Transportation	3
2880:232	Labor Management Relations Electives	3 4

Accounting

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations or	3
2040:251	Work Relationships	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution or	3
2420:202	Personnel Practices	3
2420:103	Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:213	Basic Accounting III	3
2420:214	Essentials of Intermediate Accounting*	3
2420:216	Survey of Cost Accounting*	3
2420:217	Survey of Taxation*	4
2420:243	Survey of Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2440:125	Lotus 1-2-3	2
2440:151	PC DOS Fundamentals	1
2440:245	Introduction to Database III+/IV	3
2540:119	Business English	3
2540:125	Electronic Business Calculations	2

Banking

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations or	3
3750:100	Introduction to Psychology	3
2020:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:103	Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:113	Introduction to Banking	2
2420:123	Federal Regulation of Banking	2
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:233	Installment Credit	2
2420:243	Survey in Finance	3
2420:253	Elements of Bank Management	2
2420:273	Monetary Systems and the Payments Mechanism	3
2420:280	Essentials of Law	3
2430:105	Real Estate Principles	2
2430:245	Real Estate Finance	2
2440:120	Computer and Software Fundamentals	2
2540:119	Business English	3
2540:263	Business Communications	3

Credit Union

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3

2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:103	Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:105	Introduction to Credit Unions	2
2420:115	Credit Union Operations	2
2420:125	Personal Financial Counseling	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:221	Administrative Office Supervision	2
2420:225	Credit Union Lending and Collections	2
2420:243	Survey in Finance	3
2420:245	Credit Union Financial Management	2
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2540:119	Business English	3
2540:263	Business Communications Technical Electives	3 2

Recommended Electives:

2420:101	Elements of Distribution	3
2420:221	Administrative Office Supervision	2
2440:239	RPG II Programming	1
2880:232	Labor-Management Relations	3
2540:125	Electronic Business Calculations	2

Data Administration

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2030:130	Introduction to Technical Mathematics or	3
2420:101	Elements of Distribution	3
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:103	Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2440:121	Introduction to Programming Logic	2
2440:125	Lotus 1-2-3	2
2440:133	COBOL Programming	2
2440:151	PC DOS Fundamentals	1
2440:220	Software Applications for Business	2
2440:267	4GL for Micros: dBase III+	3
2540:119	Business English	3
2540:263	Business Communications Technical Electives	3 4

Small Business Management

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:103	The Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:117	Small Business Development	3
2420:118	Small Business Management and Operations	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:227	Entrepreneurship Projects	4
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2450:119	Business English	3
2520:103	Principles of Advertising	3
2540:263	Business Communications Technical Electives	3 2

Recommended Electives:

2040:254	The Black American	2
2420:111	Public Relations	2
2520:106	Visual Promotion	3
2520:201	Principles of Wholesaling	2
2520:202	Retailing Fundamentals	3
2520:210	Consumer Service Fundamentals	2
2520:211	Mathematics for Retail Distribution	3
2520:212	Principles of Sales	3
2520:233	Installment Credit	2
2540:125	Electronic Business Calculations	2
2540:140	Keyboarding for Nonmajors	2
2880:200	Manufacturing Profitability**	3

*Course is not transferable to College of Business Administration.

**Prerequisites are 2420:104,211

2430: Real Estate

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

1100:----	Physical Education	1
1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:121	Office Management	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2430:105	Real Estate Principles	2
2430:185	Real Estate Law	2
2430:245	Real Estate Financing	2
2430:255	Valuation of Residential Property	2
2430:265	Real Estate Brokerage	2
2430:275	Real Estate Project	2
2440:120	Computer and Software Fundamentals	2
2520:212	Principles of Sales	3
2540:119	Business English	3
2540:263	Business Communications	3
	Electives	5

2440: Computer Programming Technology

This program prepares graduates to enter the job market as computer programmers for business and industry. Emphasis of the curriculum is on programming computers to solve business problems.

1100:----	Physical Education	1
1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
2020:121	English	4
2030:141,2	Mathematics for Data Processing I, II	7
2020:222	Technical Report Writing	3
	or	
2540:263	Business Communications	3
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:211,12	Basic Accounting I, II	6
2440:120	Computer and Software Fundamentals	2
2440:121	Introduction to Programming Logic	2
2440:131	Introduction to Programming	2
2440:132	Assembler Programming	3
2440:133	Structured COBOL Programming	2
2440:234	Advanced COBOL Programming	3
2440:239	RPG II Programming	2
2440:241	Systems Analysis and Design	3
2440:251	Computer Applications Projects	5
2440:252	Job Control Language	1
	Computer Programming Electives	6
Computer Programming Electives:		
2440:151	PC DOS Fundamentals	1
2440:235	Current Programming Topics	2
2440:243	Information Center Practicum	3
2440:261	CICS	3
2440:262	COBOL Efficiency	2
2440:263	Data Base Concepts	3
2440:267	4GL for Micros: dBase III Plus	3

2520: Marketing and Sales Technology

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

1100:----	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:243	Survey of Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
	and	
2520:215	Advertising Projects	2
	or	
2520:219	Sales Projects	2
2520:103	Principles of Advertising	3
2520:106	Visual Promotion	3
2520:202	Retailing Fundamentals	3
2520:210	Consumer Service Fundamentals	2
2520:211	Mathematics of Retail Distribution	3
2520:212	Principles of Sales	3
2520:217	Merchandising Projects	2

2540:119	Business English	3
Required Electives:		
2520:221	AAF Advertising Campaign I	2
2520:222	AAF Advertising Campaign II	2

See letter

Options

Advertising

Required Technical Courses:		
2020:224	Writing for Advertising	4
2520:215	Advertising Projects	2
	and	
2520:217	Merchandising Projects	2
	or	
2520:219	Sales Projects	2
2520:234	Humor in Advertising	2
Suggested Electives:		
2020:202	Personnel Practices	3
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
2520:221	AAF Advertising Campaign I	2
2520:222	AAF Advertising Campaign II	2

Computer Sales

1100:----	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:111	Public Relations	2
2420:170	Business Mathematics	3
2420:202	Retailing Fundamentals	3
2420:211	Accounting I	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2440:125	Lotus 1-2-3	2
2440:151	PC DOS	1
2440:245	DBMS	3
2440:247	Microcomputer Hardware and Software Selection	3
2520:103	Principles of Advertising	3
2520:106	Visual Promotions	3
2520:210	Consumer Service Fundamentals	2
2520:212	Principles of Sales	3
2520:211	Math of Retail Merchandising	3
2520:217	Merchandising Projects	2
2520:219	Sales Projects	2
2540:119	Business English	3
2540:140	Keyboarding for Non-Majors	3
	or	
2540:141	PC—Word Processing for Non-Majors	2

Fashion*

7400:121	Textiles	3
7400:317	History of Costumes	3
7400:339	The Fashion Industry	3
7400:419	Clothing Communication	3
Suggested electives:		
2440:120	Computer and Software Fundamentals	2
2520:217	Merchandising Projects	2

Industrial*

2520:203	Fundamentals of Industrial Distribution	3
2520:207	Techniques of Merchandising	2
Suggested Electives:		
2420:202	Personnel Practices	3
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
2520:219	Sales Projects	2

Retailing

2420:202	Personnel Practices	3
2420:243	Survey in Finance	3
2440:120	Computer and Software Fundamentals	2
	Technical Electives	7

Sales

Required Courses:		
2420:202	Personnel Practices	3
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
2520:215	Advertising Projects	2
2520:217	Merchandising Projects	2
2520:219	Sales Projects	2
Suggested Electives:		
2520:221	AAF Advertising Campaign I	2
2520:222	AAF Advertising Campaign II	2

*Not required to take 2420:111.

2540: Office Administration

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

Options**Executive Secretarial**

1100:	Physical Education	1
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:129	Information/Records Management	3
2540:130	Introduction to Office Automation	4
2540:151	Intermediate Keyboarding	3
2540:171	Shorthand Principles	4
2540:173	Shorthand and Transcription	4
2540:243	Internship	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4
2540:274	Advanced Dictation and Transcription	4
2540:281	Machine Transcription	3
	Elective	2

Suggested Electives:

2020:222	Technical Report Writing	3
2040:242	American Urban Society	3
2040:241	Technology & Human Values	3
2040:244	Death and Dying	2
2040:251	Human Behavior at Work	3
2040:254	The Black American	2

International Secretarial

1100:	Physical Education	1
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:129	Information/Records Management	3
2540:130	Introduction to Office Automation	4
2540:151	Intermediate Keyboarding	3
2540:243	Internship	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4
2540:281	Machine Transcription	3
	Beginning Language	4
	Beginning Language	4
	Intermediate Language	3
	Intermediate Language	3
	Elective	2

Suggested Electives:

2020:222	Technical Report Writing	3
2040:242	American Urban Society	3
2040:241	Technology & Human Values	3
2040:244	Death and Dying	2
2040:251	Human Behavior at Work	3
2040:254	The Black American	2

Legal Secretarial

1100:	Physical Education	1
2020:121	English Composition	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:280	Essentials of Law	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:129	Information/Records Management	3
2540:130	Introduction to Office Automation	4
2540:151	Intermediate Keyboarding	3
2540:243	Internship	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:255	Legal Office Procedures I	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4
2540:279	Legal Office Procedures II	4
2540:281	Machine Transcription	3
	Elective	2

Suggested Electives:

2020:222	Technical Report Writing	3
2040:242	American Urban Society	3
2040:241	Technology and Human Values	3
2040:244	Death and Dying	2
2040:251	Human Behavior at Work	3
2040:254	The Black American	2

Administrative Assistant

1100:	Physical Education	1
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:129	Information/Records Management	3
2540:130	Introduction to Office Automation	3
2540:131	Computerized Document Control	4
2540:151	Intermediate Keyboarding	3
2540:243	Internship	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4
2540:281	Machine Transcription	3

Electives:

2020:222	Technical Report Writing	3
2040:242	American Urban Society	3
2040:241	Technology and Human Values	3
2040:244	Death and Dying	3
2040:251	Human Behavior at Work	3
2040:254	Black American	2
	Electives:	10
2540:131	Computerized Doc Control	4
2540:247	Automated Office System	4
2540:264	Advanced Business Communications	3
2540:171	Shorthand Principles	4
2540:173	Shorthand and Transcription	4
2540:271	Desktop Publishing	3
2540:274	Advanced Dictation and Transcription	4

Office Information Management

1100:	Physical Education	1
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:129	Information/Records Management	3
2540:130	Introduction to Office Automation	4
2540:131	Computerized Document Control	4
2540:151	Intermediate Keyboarding	3
2540:243	Internship	3
2540:247	Automated Office Systems	4
2540:248	Advanced Office Technologies	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4
2540:281	Machine Transcription	3
	Elective	2

Suggested Electives:

2020:222	Technical Report Writing	3
2040:242	American Urban Society	3
2040:241	Technology and Human Values	3
2040:241	Death and Dying	2
2040:251	Human Behavior at Work	3
2040:254	The Black American	2

2550: Office Services

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2040:240	Human Relations	3
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
	or	
2420:104	Introduction to Business	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:280	Essentials of Law	3
2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:130	Introduction to Office Automation	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:264	Advanced Business Communications	3
2540:275	Administrative Office Procedures	3
2540:281	Machine Transcription	3
	Elective	3

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

2560: Transportation

This program is aimed at developing technical knowledge and skills in the area of transportation management.

Options

Airline/Travel Industry

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3
2040:247	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
2420:211	Basic Accounting I	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2520:212	Principles of Sales	3
2540:119	Business English	3
2540:140	Keyboarding for Nonmajors	2
	or	
2540:141	PC Word Processing for Nonmajors	2
2560:110	Principles of Transportation	3
2560:116	Air Transportation	2
2560:118	Transportation Rate System	3
2560:221	Traffic and Distribution Management	3
2560:228	Introduction to Travel	2
2560:229	Passenger Ticketing	2
2560:230	Tour Planning and Packaging	2
2560:231	Computerized Reservations I	2
2560:232	Computerized Reservations II	2

see other

General Elective

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2040:247	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	Computer and Software Fundamentals	2
2540:119	Business English	3
2540:263	Business Communications	3
2560:110	Principles of Transportation	3
2560:115	Motor Transportation	3
2560:116	Air Transportation	2
2560:117	Water Transportation	2
2560:118	Transportation Rate Systems	3
2560:221	Traffic and Distribution Management	3
2560:222	Microcomputer Applications in Transportation	3
2560:224	Transportation Regulation	3
2560:227	Transportation of Hazardous Materials and Wastes	2

2880: Manufacturing Technology

Through the study of basic technical subjects and through concentration on work measurement, manufacturing, computer applications, quality control, robotics, manufacturing work cells, and MRPII, this program educates the student in the areas of analysis, design and management of the resources, facilities and people involved in modern manufacturing.

Options

Computer-Aided Manufacturing Option

1100:—	Physical Education	1
2020:121	English	4
2020:222	Technical Report Writing	3
2030:152	Elements of Mathematics II	2
2030:153	Elements of Mathematics III	2
2030:154	Math for Engineering Technology I	3
2030:255	Math for Engineering Technology II	3
2040:240	Human Relations	3
2820:121	Technical Computations	1
2820:161	Technical Physics: Mechanics I	2
2820:162	Technical Physics: Mechanics II	2
2820:163	Technical Physics: Electricity and Magnetism	2
2880:100	Basic Principles of Manufacturing Management	4
2880:110	Manufacturing Processes	2
2880:130	Work Measurement and Cost Estimating	3
2880:201	Robotics and Automated Manufacturing	3
2880:211	Computerized Manufacturing I	3
2880:221	Survey of Machine Tools & CNC Machinery	3
2880:222	Computer Numerically Controlled Manufacturing	3
2880:232	Labor-Management Relations	3
2880:241	Introduction to Quality Assurance	3
2940:121	Technical Drawing I	3
2940:180	Introduction to CAD	1
	Technical Electives	3
	General Electives	5

Industrial Supervision Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:151	Elements of Mathematics I	2
2030:152	Elements of Mathematics II	2
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2040:251	Work Relationships	3
2420:103	Role of Supervision in Management	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:280	Essentials of Law	3
2880:100	Basic Principles of Manufacturing Management	4
2880:110	Manufacturing Processes	2
2880:121	Technical Computations	1
2880:130	Work Measurement and Cost Estimating	3
2880:211	Computerized Manufacturing Control	3
2880:222	Computer Numerically Controlled Manufacturing	3
2880:232	Labor Management Relations	3
2880:241	Introduction to Quality Assurance	3
	General Electives	2
	Technical Electives	2

Technical Electives (two credits required from following):

2030:132	Mathematical Analysis II	3
2420:243	Survey in Finance	3
2440:120	Computer and Software Fundamentals	2
2920:348	Introduction to Numerical Control	3
2920:448	Numerical Control Programming	3
2940:121	Technical Drawing I	3

General Electives (two credits required from following):

2040:242	American Urban Society	3
2040:251	Work Relationships	3
2040:254	The Black American	2

2920: Mechanical Technology

(Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.) (TAC/ABET)

This program prepares individuals to 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
2020:222	Technical Report Writing	3
2030:152	Elements of Mathematics II	2
2030:153	Elements of Mathematics III	2
2030:154	Math for Engineering Technology I	3
2030:255	Math for Engineering Technology II	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2820:121	Technical Computations	1
2820:161	Technical Physics: Mechanics I	2
2820:162	Technical Physics: Mechanics II	2
2820:163	Technical Physics: Electricity and Magnetism	2

Engineering and Science Technology

2860: Electronic Technology

(Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.) (TAC/ABET)

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
2020:222	Technical Report Writing	3
2030:152	Elements of Mathematics II	2
2030:153	Elements of Mathematics III	2
2030:154	Math for Engineering Technology I	3
2030:255	Math for Engineering Technology II	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2820:121	Technical Computations	1
2820:161	Technical Physics: Mechanics I	2
2820:162	Technical Physics: Mechanics II	2
2820:164	Technical Physics: Heat and Light	2
2860:120	DC Circuits	4
2860:122	AC Circuits	3
2860:123	Electronic Devices	3
2860:136	Introduction to Digital Concepts	1
2860:225	Electronic Devices Applications	4
2860:231	Control Principles	3
2860:237	Digital Circuits	4
2860:238	Microprocessor Fundamentals	4
2860:242	Machinery and Controls	4
2860:251	Communications Circuits	3
2860:255	Electronic Design and Construction Manufacturing	2
2860:260	Electronics Project	2

2820:164	Technical Physics: Heat and Light	2
2920:101	Introduction to Mechanical Design	3
2920:142	Design Materials	3
2920:201	Mechanical Design I	4
2920:231	Kinematics/Dynamics	4
2920:245	Mechanical Design II	5
2920:247	Technology of Machine Tools	3
2920:249	Applied Thermal Energy	2
2920:251	Fluid Power	2
2920:252	Thermo-Fluids Laboratory	1
2940:121	Technical Drawing I	3
2940:180	Introduction to CAD	1
2980:125	Statics	3

2940: Drafting and Computer Drafting Technology

This program prepares an individual to work as a drafter by providing in-depth knowledge of various types of drafting as well as computer-aided drafting. It will educate the individual to compile detailed drawings based on rough sketches, specifications and calculations made by engineers, architects and designers.

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:151	Elements of Mathematics I	2
2030:152	Elements of Mathematics II	2
2040:240	Human Relations	3
2820:121	Technical Computations	1
2870:311	Computer-Aided Drafting	2
2880:110	Manufacturing Processes	2
2920:247	Technology of Machine Tools	3
2940:121	Technical Drawing I	3
2940:122	Technical Drawing II	3
2940:150	Drafting Design Problems	2
2940:170	Surveying Drafting	3
2940:200	Advanced Drafting	3
2940:210	Computer Drafting	3
2940:230	Mechanical Systems Drafting	3
2940:240	Electrical and Electronic Drafting	3
2940:250	Architectural Drafting	3
2940:260	Drafting Technology Project	3
2980:231	Building Construction	2
2980:250	Structural Drawing	2
3350:340	Cartography	3

General Electives:

2030:132	Mathematics for Engineering Technology	3
2030:153	Elements of Mathematics III	2
2040:241	Technology and Human Values	2
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2040:251	Human Behavior at Work	3
2040:254	The Black American	2

2980: Surveying and Construction Technology

(Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.) (TAC/ABET)

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

Options

Construction

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:152	Elements of Mathematics II	2
2030:153	Elements of Mathematics III	2
2030:154	Math for Engineering Technology I	3
2030:255	Math for Engineering Technology II	3
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2820:121	Technical Computations	1
2820:161	Technical Physics: Mechanics I	2
2820:162	Technical Physics: Mechanics II	2
2820:163	Technical Physics: Electricity and Magnetism	2
2820:164	Technical Physics: Heat and Light	2
2940:121	Technical Drawing I	3
2980:122	Basic Surveying	3
2980:123	Surveying Field Practice	2
2980:125	Statics	3
2980:222	Construction Surveying	3
2980:231	Building Construction	2
2980:232	Construction	3
2980:234	Elements of Structures	3
2980:237	Materials Testing I	2
2980:238	Materials Testing II	2
2980:241	Strength of Materials	3
2980:245	Cost Analysis and Estimating	3
2980:250	Structural Drafting	2

Surveying

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:152	Elements of Mathematics II	2
2030:153	Elements of Mathematics III	2
2030:154	Math for Engineering Technology I	3
2030:255	Math for Engineering Technology II	3
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2820:121	Technical Computations	1
2820:161	Technical Physics: Mechanics I	2
2820:162	Technical Physics: Mechanics II	2
2820:163	Technical Physics: Electricity and Magnetism	2
2820:164	Technical Physics: Heat and Light	2
2940:121	Technical Drawing I	3
2980:122	Basic Surveying	3
2980:123	Surveying Field Practice	2
2980:125	Statics	3
2980:222	Construction Surveying	3
2980:224	Land Surveying	3
2980:225	Advanced Surveying	4
2980:226	Subdivision Design	2
2980:232	Construction	3
2980:237	Materials Testing I	2
2980:241	Strength of Materials	3
3350:340	Cartography	3

Public Service Technology

2200: Educational Technology

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

Core Program

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2030:130	Introduction to Technical Math	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2540:140	Keyboarding for Non-Majors	2
3750:100	Introduction to Psychology	3
5100:150	Introduction to Professional Education	3
5100:250	Human Development and Learning	3
5100:410	Audio-Visual Education	2
5550:211	First Aid	2
5850:295	Education Technician Field Experience	5
	Option Requirements	26
	Electives	1

Options

Child Development††

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2030:130	Introduction to Technical Mathematics and elective (one)	4
2040:240	Human Relations	3
2040:242	American Urban Society	3
2200:245	Infant/Toddler Day-Care Programs	3
2200:250	Observing and Recording Children's Behavior	3
5100:250	Human Development and Learning	4
5200:310	Introduction to Early Childhood Education	3
5200:315	Issues and Trends in Early Childhood Education	3
5200:360	Teaching in the Nursery Center	2
5200:370	Nursery Center Laboratory	2
5550:211	First Aid	2
5610:450	Special Education Programming: Early Childhood	3
5850:295	Field Experience	5
7400:132	Early Childhood Nutrition	3
7400:265	Child Development	3
7400:270	Theory and Guidance of Play	3
7400:280	Creative Activities for Pre-Kindergarten Children	4
7400:448	Before and After School Child Care	2
	Elective	2

Voluntary Pre-Kindergarten Associate Certification is available. See coordinator for other requirements for certification.

Elementary Aide‡

5200:335	Teaching Language Arts	5
5850:207	Mechanics of Student Appraisal††	3
	Electives	18

††Must complete 7400:265, 275 and 5200:360 before doing 5850:295. 7400:290 can be taken concurrently. See coordinator the previous semester.

‡Must complete required courses before doing 5850:205. See coordinator the previous semester.

††Elementary aide students may substitute 5100:350.

Library Technician#

2200:100	Introduction to Library Technology	3
2200:201	Processing, Cataloging and Classifying Materials	3
2200:202	Organizing and Operating Library Media Centers	3
2200:203	Materials Selection	2
2200:204	Reference Procedures	3
2200:205	Information Retrieval Systems in Library Technology	3
2540:141	PC Word Processing for Non-Majors	2
	Electives	6-7

2250:260	Administration and Supervision for Public Services	3
2420:104	Introduction to Business	3
2440:120	Computer and Software Fundamentals	2
2840:100	Basic Chemistry	3
2882:141	Safety Procedures	3
	Technical Electives	3

Social Work Emphasis

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:152	Elements of Math II	2
2030:153	Elements of Math III	2
2040:240	Human Relations	3
2040:242	American Urban Society	3
2220:100	Introduction to Criminal Justice	3
2220:102	Criminal Law for Police	3
2220:104	Evidence and Criminal Legal Process	3
2220:106	Juvenile Justice Process	3
2220:110	Social Values and Criminal Justice Process	3
2220:200	Criminal Justice Theory and Practice	3
2250:260	Administration and Supervision in the Public Service	3
2840:100	Basic Chemistry	3
3850:100	Introduction to Sociology	4
7750:270	Poverty in the United States	3
7750:276	Introduction to Social Welfare	4
	Social Work Electives	6
	General Electives	2

2210: Handicapped Services

Interpreting for the Deaf

The purpose of this program is to train and educate students who wish to become interpreters to facilitate communications between hearing and deaf/hearing impaired consumers.

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2040:240	Human Relations	3
	or	
3750:100	Introduction to Psychology	3
2040:242	American Urban Society	3
2210:100	Introduction to Interpreting for the Deaf	4
2210:104	Sign Language Gesture and Mime	3
2210:110	Specialized Interpreting I	3
2210:150	Handicapped Services Practicum##	2
2210:200	Reverse Interpreting	3
2210:230	Specialized Interpreting II	3
2210:170	Business Mathematics	3
7700:100	Manual Communication I	5
7700:120	Introduction to Audiology/Aural Rehabilitation	3
7700:121	Psycho-Social Aspects of Deafness	3
7700:150	Manual Communication II	4
7700:200	Manual Communication III	4
7700:222	Introduction to the Deaf Culture and its Origins	2
7700:223	Speech and Language of Deaf Child and Adult	4
7700:271	Language of Signs I	3
	General Electives	2

A student with a particular interest in corrections may vary the program of study by making the following substitutions: 3850:330 *Criminology*, three credits; 3850:432 *Probation and Parole*, three credits; or 2260:278 *Techniques of Community Work*, four credits; and 3850:431 *Corrections*, three credits, for courses: 2220:250 *Criminal Case Management*, six credits; 2220:200 *Criminal Justice Theory and Practice*, three credits; and 2220:240 *Dynamics of Vice Crime and Substance Abuse*, three credits. Students must complete electives to equal the 64-credit program requirement.

2230: Fire Protection Technology

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

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:131	Mathematical Analysis I	4
2040:240	Human Relations	3
2040:242	American Urban Society	3
2230:100	Introduction to Fire Protection	3
2230:102	Fire Safety in Building Design and Construction	3
2230:140	Fire Investigative Methods	2
2230:202	Fire Suppression Methods	3
2230:204	Fire Hazards Recognition	3
230:205	Fire Detection and Suppression Systems I	3
2230:206	Fire Detection and Suppression Systems II	3
2230:250	Hazardous Materials	4
2230:254	Fire Codes and Standards	3
2230:256	Fire Protection for Business and Industry	3
2250:260	Administration and Supervision for Public Services	3
2840:151	Basic Physics: Mechanics	2
5550:211	First Aid	2
	General Electives	4
	Technical Electives	2

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	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2040:254	The Black American	2
2260:100	Introduction to Community Services	3
2260:150	Introduction to Gerontological Services	3
2260:240	Chemical Dependency**	3
2260:260	Alcohol Use and Abuse	3
2260:278	Techniques of Community Work	4
2260:279	Technical Experience: Community and Social Work	5
3750:100	Introduction to Psychology*	3
3850:100	Introduction to Sociology	4
7750:270	Poverty in the United States*	3
7750:276	Introduction to Social Welfare	4
	Electives	10

2220: Criminal Justice Technology

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

1100:—	Physical Education**	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:152	Elements of Math II	2
2030:153	Elements of Math III	2
2220:100	Introduction to Criminal Justice	3
2220:102	Criminal Law for Police	3
2220:104	Evidence and Criminal Legal Process	3
2220:106	Juvenile Justice Process	2
2220:110	Social Values and Criminal Justice	3
2220:200	Criminal Justice Theory and Practice	3
2220:240	Dynamics of Vice Crime and Substance Abuse	3
2220:250	Criminal Case Management	6
2250:260	Administration and Supervision in the Public Service	3
2840:100	Basic Chemistry	3
3750:100	Introduction to Psychology	3
3850:100	Introduction to Sociology	4
	General Electives	3
	Technical Electives	3

See letter

See letter

Options

Security Administration

1100:—	Physical Education**	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:222	Technical Report Writing	3
2030:131	Mathematical Analysis I	4
2040:240	Human Relations	3
2040:242	American Urban Society	3
2220:101	Introduction to Security	4
2220:102	Criminal Law for Police	3
2220:104	Evidence and Criminal Legal Procedure	3
2220:240	Dynamics of Vice Crime	3
2220:250	Criminal Case Management	6
2230:104	Fire Investigation Methods	3
2030:250	Hazardous Materials	4

##Library courses are offered in alternate years. See adviser or coordinator.

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

*Required for Social Service Emphasis (2+2) majors.

**Not required for Social Service Emphasis (2+2) majors.

Options**Alcohol Services**

2260:261	Alcoholism Treatment	3
2260:262	Basic Helping Skills in Alcohol Problems	4
2260:263	Group Principles in Alcoholism or	4
2260:290	Special Topics: Alcohol Services	1-3

Gerontology

2040:244	Death and Dying	2
2260:251	Community Services for Senior Citizens	3
2260:252	Resident Activity Coordination	3

Volunteer Programming

2260:280	Fundamentals of Volunteer Management	3
2260:281	Recruitment and Interviewing of Volunteers	3

Technical Electives (suggested):

2200:245	Infant/Toddler Day-Care Programs	3
2220:106	Juvenile Justice Process	3
2260:230	Community-Based Residential Services	3
2260:240	Drug Use and Abuse	3
2260:241	Drug Treatment	3
2260:290	Special Topics in Community Services Technology	2-4
2540:140	Keyboarding for Non-Majors	3

Social Services Emphasis†

1100:—	Physical Education	1
1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:112	English Composition	4
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2040:242	American Urban Society	3
2040:247	Survey of Basic Economics	3
2040:254	The Black American	2
2260:100	Introduction to Community Services	3
2260:150	Introduction to Gerontological Services	3
2260:260	Alcohol Use and Abuse	3
2260:278	Techniques of Community Work	4
2260:279	Technical Experience: Community and Social Service	5
3750:100	Introduction to Psychology	3
3850:100	Introduction to Sociology	4
7750:—	Social Work Electives	6
7750:270	Poverty in the United States	3
7750:276	Introduction to Social Welfare	4

2290: Legal Assisting Technology**Admission Requirements**

Since class size is limited and firms will hire only superior students, persons admitted to the program should meet *one* of the following requirements:

- 3.0 high school GPA on a 4.0 scale;
- Top one-third nationwide on SAT or ACT scores;
- High school graduate with at least three years' experience in a law office at any level.

Only those students who attain a 2.5 GPA after the first semester (based on a minimum of 12 hours) will be allowed to continue in the program.

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
2220:104	Evidence and Criminal Legal Process	3
2290:101	Introduction to Legal Assisting	3
2290:104	Basic Legal Research and Writing	3
2290:106	Business Associations	3
2290:108	Real Estate Transactions	3
2290:110	Tort Law	3
2290:112	Family Law	3
2290:118	Probate Administration	4
2290:204	Advanced Legal Research	3
2290:214	Civil Procedure	3
2290:216	Debtor-Creditor Relations	3
2290:218	Advanced Probate Administration	3
2290:220	Legal Assisting Internship	4
2290:211	Basic Accounting	3
2440:120	Computer and Software Fundamentals	2
	Electives	3

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

Wayne College

Tyrone M. Turning, Ed.D., *Dean*
 Robert L. McElwee, M.A., *Associate Dean*
 Helene S. Thall, M.S., *Assistant Dean*

HISTORY AND MISSION

To meet the needs of the citizens of Wayne, Holmes and Medina Counties, The University of Akron — Wayne College opened its doors in 1972. Seven technical programs and six certificate programs, as well as the first two years of baccalaureate programs, are offered. The following degrees are available from The University of Akron — Wayne College: Associate of Arts; Associate of Science; Associate of Technical Studies; Associate of Applied Business in Business Management Technology or Office Administration; Associate of Applied Science in Microprocessor Service Technology or Social Services Technology.

ADMISSIONS

Admission materials can be obtained by writing the Admissions Office at Wayne College or The Office of Admissions of The University of Akron, or by calling 683-2010 in the Orrville/Wooster area, or 1-800-221-8308 in Ohio.

The student enrolled at Wayne College may also take courses at the main campus of The University of Akron while attending Wayne College. Likewise, a student enrolled on the main campus may take courses at Wayne College concurrently. Wayne College is accredited at the associate degree level by the North Central Association of Colleges and Schools.

WAYNE COLLEGE PROGRAMS

The following associate degree programs are available at Wayne College. The structure of these programs may differ from similar programs within the Community and Technical College of The University of Akron. All required courses for these programs are available at the college for students attending day or evening classes. A diploma issued as a result of the completion of one of these programs carries The University of Akron — Wayne College designation. In some instances, specific course sequencing is necessary, especially to the student attending full time, to accommodate completion of the program in two years. Please consult an adviser at Wayne College for further details.

Associate of Technical Studies

The Associate of Technical Studies (ATS) provides an integrated program of study for those students whose educational objectives and interests cannot be met through the college's formal associate degree programs. The Associate of Technical Studies permits students to combine various courses from two or more of the college's existing programs with other University credits, with credits earned at other postsecondary institutions, and/or with training received through other educational enterprises.

The Associate of Technical Studies is administered through the Office of the Dean and coordinated by the associate dean. Interested students must complete a formal Associate of Technical Studies application. Upon application, the associate dean makes an initial assessment of any transfer work and assists the applicant in selecting relevant areas of study. The application is then forwarded for review by the faculty most closely associated with the proposed area of study. Upon faculty acceptance, the application is submitted to the Associate of Technical Studies Committee who, upon approval, forwards the application to the dean of Wayne College for final approval.

The following are the graduation requirements for the Associate of Technical Studies:

- Completion of an Associate of Technical Studies application specifying a coherent combination of technical courses selectively drawn from two but no more than three major areas of study and reflecting a reasonable array of courses within each area of study.
- Approval of the Associate of Technical Studies application by the associate dean, relevant faculty, the Associate of Technical Studies committee, and the dean of Wayne College.

- Degree application of only that transfer coursework completed with a "C" (2.0) grade or better.
- Completion of at least 14 credits of "general education" courses and 14 credits of "basic" courses, as required by the Ohio Board of Regents.
- Completion of at least one-half of the technical credits at The University of Akron and/or Wayne College, equally divided among the selected areas of study.
- Completion of a minimum of 64 credits with a grade point average of 2.0
- Completion of all other University graduation requirements.

2020: Associate of Arts/Associate of Science

These are programs of general education intended to produce a socially intelligent individual, one who understands effective social behavior and appreciates social values and scientific facts. The student intending to transfer to a bachelor's degree-granting college/university (including The University of Akron) may want to complete one of these degree programs prior to transfer. Doing so certifies the successful completion of two years of collegiate education at an accredited institution of higher education.

Arts Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
1100:112	English Composition II	4
1100:320	Western Culture Traditions ¹	4
1100:321	Western Culture Traditions ¹	4
1100:33—	World Civilizations ¹	2
1100:33—	World Civilizations ¹	2
3250:201	Principles of Macroeconomics	3
3400:202	U.S. History since 1877	4
	or	
3700:100	Government and Politics in the U.S.	4
	or	
3850:100	Introduction to Sociology	4
3750:100	Introduction to Psychology	3
	Mathematics requirement ²	3
	Natural Science requirement ³	6
	Electives ⁴	21
		64

Science Option

11:00—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
1100:112	English Composition II	4
1100:320	Western Culture Traditions ¹	4
1100:321	Western Culture Traditions ¹	4
1100:33—	World Civilizations ¹	2
1100:33—	World Civilizations ¹	2
3250:201	Principles of Macroeconomics	3
3400:202	U.S. History since 1877	4
	or	
3700:100	Government and Politics in the U.S.	4
	or	
3850:100	Introduction to Sociology	4
3750:100	Introduction to Psychology	3
	Mathematics requirement ²	6
	Natural Science requirement ³	21
		64

¹ Students must have completed a minimum of 64 semester credits or have permission before enrolling for these courses.

² The mathematics requirement varies by department. Please consult an adviser for specific requirements.

³ A minimum of six credits of natural science are required. However, departmental requirements may vary. Please consult an adviser for specific information.

⁴ In the arts program, a student is free to choose any electives, but they must be in some logical sequence. They should lead to some upper-college degree program, i.e., arts and sciences, education, or fine and applied arts.

⁵ In the science program, a student is free to choose any electives. However, at least two-thirds of the credits must be in the natural sciences; mathematics, statistics or computer science; engineering; business administration; or nursing department; and should lead to some upper-college degree objective.

2260: Social Services Technology

This program prepares the individual for employment in support of social workers or other professional human services personnel. It includes courses in social work, sociology, psychology and various aspects of community services.

General Options

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
1100:112	English Composition II	4
2040:240	Human Relations	3
2040:260	The Arts and Human Experience	3
2260:150	Introduction to Gerontological Services	3
2260:260	Alcohol Use and Abuse	3
2260:278	Techniques of Community Work	4
2260:285	Social Services Practicum	2-4
2260:288	Techniques of Community Work II	4
2260:294	Social Services Practicum Seminar	2
3750:100	Introduction to Psychology	3
3750:230	Developmental Psychology	4
3850:100	Introduction to Sociology	4
3850:104	Social Problems	3
7400:201	Relational Patterns: Marriage and Family	3
7750:270	Poverty in the U.S.	3
7750:276	Introduction to Social Welfare	4
	Electives	<u>0-2</u>
		64

2+2 Option with four-year Social Work degree

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
1100:112	English Composition II	4
1100:221	Natural Science-Biology	3
2260:150	Introduction to Gerontological Services	3
2260:260	Alcohol Use and Abuse	3
2260:278	Techniques of Community Work	4
2260:285	Social Services Practicum	4
2260:288	Techniques of Community Work II	4
2260:294	Social Services Practicum Seminar	2
3750:100	Introduction to Psychology	3
3750:230	Developmental Psychology	4
3850:100	Introduction to Sociology	4
7750:270	Poverty in the U.S.	3
7750:276	Introduction to Social Welfare	4
	Natural Science requirement	3
	Social Science requirement	4
	Social Services	
	or	
	Social Work elective	3
	Social Science elective	<u>3</u>
		64

2420: Business Management Technology

The Accounting Option provides paraprofessional training for a variety of accounting positions. Graduates will be prepared for immediate employment in the areas of financial accounting, sales, procurement, credit and collections, business research, data compilation and reporting. The Data Management Option provides for an intensive introduction to the uses of computers in business by requiring the student to develop useful skills in that area. The General Option provides training in varied business activities in preparation for an entry-level management position in business, industry, government and nonprofit organizations or as a self-employed manager. The Sales and Services Option equips graduates for entry-level sales or service support positions, with special emphases in banking, financial services, general sales, insurance, and real estate.

Accounting Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2040:247	Survey of Basic Economics	3
2040:251	Human Behavior at Work	3
2040:260	The Arts and Human Experience	3
2420:103	The Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:171	Business Calculations	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:213	Basic Accounting III	3
2420:214	Essentials of Intermediate Accounting	3
2420:216	Survey of Cost Accounting	3
2420:217	Survey of Taxation	4
2420:218	Automated Bookkeeping	1
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2440:125	Lotus 1-2-3	2
2540:119	Business English	3
2540:263	Business Communications	3
	Elective	<u>4</u>
		66

Data Management Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2030:141	Mathematics for Data Processing I	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2040:260	The Arts and Human Experience	3
2420:101	Elements of Distribution	3
2420:103	The Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:218	Automated Bookkeeping	1
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2440:125	Lotus 1-2-3	2
2440:130	BASIC Programming for Business	3
2440:245	Introduction to Database III+/IV	3
2440:255	Introduction to Data Communications	2
2440:267	4GL for Micros: Database III+	3
2540:119	Business English	3
2540:263	Business Communications	<u>3</u>
		67

General Business Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2040:251	Work Relationships	3
2040:260	The Arts and Human Experience	3
2420:101	Elements of Distribution	3
2420:103	The Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:171	Business Calculations	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II	3
2420:218	Automated Bookkeeping	1
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2540:119	Business English	3
2540:140	Keyboarding for Nonmajors	2
2540:263	Business Communications	3
2880:232	Labor-Management Relations	3
	Electives	<u>3</u>
		64

Sales and Services Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2040:247	Survey of Basic Economics	3
2040:251	Human Behavior at Work	3
2040:260	The Arts and Human Experience	3
2420:101	Elements of Distribution	3
2420:103	The Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:171	Business Calculations	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2520:210	Consumer Service Fundamentals	2
2520:212	Principles of Sales	3
2540:119	Business English	3
2540:263	Business Communications	3
	Emphasis Courses	<u>15</u>
		67

Bank Teller/Supervisor emphasis

2420:113	Introduction to Banking	2
2420:202	Personnel Practices	3
2420:212	Basic Accounting II	3
2420:233	Installment Credit	2
2420:253	Elements of Bank Management	2
2440:125	Lotus 1-2-3	2
	and	
2440:151	PC-DOS Fundamentals	1
	or	
2440:245	Introduction to dBASE III+/IV	3

Financial Services emphasis

2420:125	Personal Financial Counseling	3
2420:212	Basic Accounting II	3
2420:217	Survey of Taxation	4
2420:234	Survey of Investment Products and Services	3
2440:125	Lotus 1-2-3	2

General Sales emphasis

2520:103	Principles of Advertising	3
2520:106	Visual Promotion	3
2520:202	Retailing Fundamentals	3
	or	
2520:203	Fundamentals of Industrial Distribution	3
2520:219	Sales Projects	2
3250:248	Consumer Economics	3
	Elective	1

Insurance Client Services emphasis

2420:206	Survey of Insurance Products and Services I	3
2420:207	Survey of Insurance Products and Services II	3
2440:245	Introduction to dBASE III+/IV	3
2540:121	Introduction to Office Procedures	3
2540:289	Career Development for Business Professionals	3

Real Estate emphasis

2420:202	Personnel Practices	3
2430:105	Real Estate Principles	2
2430:185	Real Estate Law	2
2430:245	Real Estate Finance	2
2430:255	Valuation of Residential Property	2
2440:125	Lotus 1-2-3	2
	and	
2440:151	PC-DOS Fundamentals	1
	or	
2440:245	Introduction to dBASE III+/IV	3

2540: Office Administration

The following programs provide thorough training in typing, shorthand and communications and are designed to prepare the individual for secretarial, stenographic or clerical positions in a variety of business settings.

Executive Secretary Option

1100:—	Physical Education	1
1100:111	English Composition I	4
2040:240	Human Relations	3
2040:260	The Arts and Human Experience	3
2420:171	Business Calculations	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2440:125	Lotus 1-2-3	2
2540:119	Business English	3
2540:121	Office Procedures	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:171	Shorthand Principles	4
	or	
2540:172	Shorthand Refresher and Transcription	4
2540:173	Shorthand and Transcription	4
2540:241	Information Management	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:281	Machine Transcription	2
2540:286	Keyboarding on Word Processing Equipment	3
2540:287	Word Processing Applications	3
2540:289	Career Development for Business Professionals	3
	Electives	1
		64

Legal Secretary Option

1100:—	Physical Education	1
1100:111	English Composition I	4
2040:240	Human Relations	3
2040:260	The Arts and Human Experience	3
2420:171	Business Calculations	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2420:280	Essentials of Law	3
2440:125	Lotus 1-2-3	2
2540:119	Business English	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:171	Shorthand Principles	4
	or	
2540:172	Shorthand Refresher and Transcription	4
2540:173	Shorthand and Transcription	4
2540:241	Information Management	3
2540:255	Legal Office Procedures I	3
2540:263	Business Communications	3
2540:279	Legal Office Procedures II	4
2540:281	Machine Transcription	2
2540:286	Keyboarding on Word Processing Equipment	3
2540:287	Word Processing Applications	3
2540:289	Career Development for Business Professionals	3
		64

Medical Secretary Option

1100:—	Physical Education	1
1100:111	English Composition I	4
2040:240	Human Relations	3
2040:260	The Arts and Human Experience	3
2420:171	Business Calculations	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2540:119	Business English	3
2540:121	Office Procedures	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:243	Internship	2
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:282	Medical Machine Transcription	2
2540:283	Medical Terminology	3
2540:284	Office Nursing Techniques	2
2540:286	Keyboarding on Word Processing Equipment	3
2740:241	Medical Records	3
2780:106	Anatomy and Physiology for Allied Health I*	3
2780:107	Anatomy and Physiology for Allied Health II*	3
5550:211	First Aid	2
	Elective	2
		64

Office Services Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2040:240	Human Relations	3
2040:260	The Arts and Human Experience	3
2420:101	Elements of Distribution	3
	or	
2420:104	Introduction to Business	3
2420:103	The Role of Supervisor in Management	3
2420:171	Business Calculations	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2420:280	Essentials of Law	3
2540:119	Business English	3
2540:121	Office Procedures	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:241	Information Management	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:281	Machine Transcription	2
2540:286	Keyboarding on Word Processing Equipment	3
2540:289	Career Development for Business Professionals	3
	Electives	2
		64

Word Processing Option

1100:—	Physical Education	1
1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2040:240	Human Relations	3
2040:260	The Arts and Human Experience	3
2420:104	Introduction to Business	3
2420:171	Business Calculations	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2440:120	Computer and Software Fundamentals	2
2440:125	Lotus 1-2-3	2
2440:130	BASIC Programming for Business	3
2440:151	PC-DOS Fundamentals	1
2540:119	Business English	3
2540:121	Office Procedures	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:241	Information Management	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:281	Machine Transcription	2
2540:286	Keyboarding on Word Processing Equipment	3
2540:287	Word Processing Applications	3
2540:289	Career Development for Business Professionals	3
		64

*Students who begin this sequence on the University's main campus must complete it at the main campus. Students who begin the sequence at Wayne College must complete it at Wayne College.

2600: Microprocessor Service Technology

This program is designed to prepare students to carry out preventive maintenance and repairs on microprocessor-based systems in varied manufacturing and service organizations. Graduates will be equipped to maintain a microprocessor-based system; repair it by performing appropriate software diagnostics; isolate and correct hardware casualties; and troubleshoot the interface between the system and ancillary and peripheral equipment.

Students completing this program may assume job titles in industry such as: computer repair technician; electrical/electronic maintenance technician; field service technician; industrial process control technician; or instrumentation technician.

1100:—	Physical Education	1
1100:106	Effective Oral Communications	3
1100:111	English Composition I	4
2020:222	Technical Report Writing	3
2030:131	Mathematical Analysis I	4
2030:152	Elements of Math II	2
2030:153	Elements of Math III	2
2040:251	Human Behavior at Work	3
2040:260	The Arts and Human Experience	3
2440:151	PC DOS Fundamentals	1
2520:210	Consumer Service Fundamentals	2
2600:100	Basic Electronics for Technicians	5
2600:125	Boolean Logic	4
2600:155	Microprocessor Assembly Language	3
2600:160	Personal Computer Servicing	3
2600:180	Microprocessor Service Practicum	2
2600:185	Microprocessor Service Practicum Seminar	1
2600:190	Microprocessor Systems Architecture	4
2600:230	Microprocessor and Digital Technology	4
2600:260	Microprocessor Diagnostics and Applications	3
2600:275	Digital Data Communications	5
2600:280	Field Experience in Microprocessor Service	2
2820:151	Basic Physics: Mechanics	3
2820:153	Basic Physics: Heat, Light & Sound	2
	Elective	2
		<u>67</u>

ONE-YEAR CERTIFICATE PROGRAMS

Certificate programs are designed to provide students with specialized job training in two 15-week semesters. The programs offer courses from the college's associate degrees. These courses can later be applied toward the Associate of Applied Business in Office Administration or Business Management Technology degrees, the Associate of Applied Science in Social Services Technology degree, or the Associate of Applied Science in Microprocessor Service Technology.

Administrative Secretary Certificate

The administrative secretary program provides intensive administrative secretarial training. The certificate is designed for those who seek to enhance their career opportunities with administrative secretarial skills. Students who complete this certificate are prepared to fill positions in areas of personnel, sales, secretarial or administration.

2420:103	The Role of Supervision in Management	3
2420:171	Business Calculations	3
2540:119	Business English	3
2540:121	Office Procedures	3
2540:150	Beginning Keyboarding	3
2540:151	Intermediate Keyboarding	3
2540:171	Shorthand Principles	4
2540:173	Shorthand and Transcription	4
2540:241	Information Management	3
2540:263	Business Communications	3
2540:286	Keyboarding on Word Processing Equipment	3
		<u>35</u>

Data Management Certificate

This certificate will provide collegiate credit for those who find themselves in supervisory or managerial positions without formal training or education and who wish to obtain specialized training in data management.

2040:240	Human Relations	3
2420:103	The Role of Supervision in Management	3
2420:104	Introduction to Business	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2440:120	Computer and Software Fundamentals	2
2440:125	Lotus 1-2-3	2
2440:130	BASIC Programming for Business	3
2440:245	Introduction to Database III+/IV	3
2440:255	Introduction to Data Communications	2
2440:267	4GL for Micros: Database III+	3
2540:119	Business English	3
2540:263	Business Communications	3
		<u>34</u>

Gerontological Social Services Certificate

Jobs in gerontological social services are expected to increase significantly in coming years because of rapidly growing numbers of older persons in our society. This one-year certificate program is designed to respond to the need for individuals with specialized knowledge and skills for employment in nursing homes, retirement communities, senior centers, nutrition sites and similar programs.

1100:111	English Composition I	4
1100:221	Natural Science: Biology	3
2260:117	Exploratory Experience in a Social Service Agency	1
2260:150	Introduction to Gerontological Services	3
2260:251	Community Services for Senior Citizens	3
2260:278	Techniques of Community Work	4
2260:285	Social Services Practicum	2
2260:288	Techniques of Community Work II	4
2260:294	Social Services Practicum Seminar	1
3100:108	Introduction to Biological Aging	3
7750:276	Introduction to Social Welfare	4
		<u>32</u>

Medical Transcription Certificate

There is substantial demand for skilled medical transcriptionists. This certificate will prepare individuals for entry-level positions in physicians' offices, hospitals, clinics, and insurance companies. The emphasis will be on keyboarding, medical terminology, and communication skills.

2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:151	Intermediate Keyboarding	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:282	Medical Machine Transcription	2
2540:283	Medical Terminology	3
2540:286	Keyboarding on Word Processing Equipment	3
2740:241	Medical Records	3
2780:106	Anatomy and Physiology for Allied Health I*	3
2780:107	Anatomy and Physiology for Allied Health II*	3
		<u>32</u>

Personal Computer Repair Certificate

This certificate is designed to prepare individuals to maintain and repair personal computers in enterprises where they are sold or where they are used in day-to-day operations.

1100:106	Effective Oral Communication	3
1100:111	English Composition I	4
2030:151	Elements of Math I	2
2030:152	Elements of Math II	2
2040:251	Human Behavior at Work	3
2440:151	PC-DOS Fundamentals	1
2520:210	Consumer Service Fundamentals	2
2600:100	Basic Electronics for Technicians	5
2600:155	Microprocessor Assembly Language Programming	3
2600:160	Personal Computer Servicing	3
2600:190	Microprocessor Systems Architecture	4
		<u>32</u>

Word Processing Certificate

This certificate prepares a student for an entry-level job in word processing. Applicants for this program must have one year of formal typewriting instruction or two years of work experience as a typist. Recipients of this certificate are prepared to fill positions in secretarial or clerical areas.

2420:171	Business Calculations	3
2420:211	Basic Accounting I	3
2420:218	Automated Bookkeeping	1
2440:120	Computer and Software Fundamentals	2
2540:119	Business English	3
2540:121	Office Procedures	3
2540:151	Intermediate Keyboarding	3
2540:241	Information Management	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:281	Machine Transcription	2
2540:286	Keyboarding on Word Processing Equipment	3
		<u>32</u>

*Students who begin this sequence on the University's main campus must complete it at the main campus. Students who begin the sequence at Wayne College must complete it at Wayne College.

GENERAL STUDIES/ TRANSFER PROGRAM

Wayne College offers the first two years of general baccalaureate education for transfer to the main campus of The University of Akron or to any other college or university. The following list indicates four-year programs of The University of Akron for which students may take one or two years of coursework at Wayne College.

Arts and Sciences

- Biology
- Chemistry
- Computer Science
- Economics
- English
- Geology
- History
- Mathematics & Statistics
- Medical Technology
- Political Science
- Psychology
- Sociology/Anthropology

Business Administration

- Accounting
- Advertising
- Finance
- Management
- Marketing

Education

- Elementary
- Physical
- Secondary
- Special

Engineering

- Chemical
- Civil
- Electrical
- Mechanical
- B.S. in Engineering

Fine and Applied Arts

- Art
- Communication
- Home Economics and Family Ecology
- Social Work

Nursing

The General Studies Transfer Program also leads to the Associate of Arts or the Associate of Science degree.

University College

Thomas Vukovich, Ph.D., *Interim Dean*

Dan Newland, Ph.D., *Assistant Dean*

Martin McKoski, Ph.D., *Director, Developmental Programs*

PROGRAM OF INSTRUCTION

The required General Studies courses are:

		<i>Credits</i>
1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:111,2	English Composition I, II	8
1100:115.6	Institutions in the United States*	6
1100:120-81	Physical Education	1
1100:320.1	Western Cultural Traditions	8
1100:330-6	World Civilizations**	4
	Mathematics	3

Natural Science Courses†

1100:221	Biology	3
1100:222	Chemistry	3
1100:223	Geology	3
1100:224	Physics	3
	Natural Science‡	6

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.

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

STUDENT SERVICES FOR THE HANDICAPPED

One of the provisions inherent in Section 504 of the Rehabilitation Act of 1973, and the subsequent amendments of 1978, requires that, to ensure equal access for students with disabilities, certain academic adjustments or accommodations must be made by the institution.

The Office of Student Services for the Handicapped is under the direction of the University College. It is the responsibility of that office to provide handicapped students with the necessary adjustments and accommodations that will ensure them the opportunity for full participation in University academic programs, activities and services.

Some of the services provided by the Office of Student Services for the Handicapped include: tutors, readers, test proctoring, interpreters, notetaking, scribe assistance, academic advising, mobility orientation and preferred registration.

ACADEMIC ADVISING SERVICES FOR DAY AND EVENING STUDENTS

This division is responsible for the academic counseling and advising of all day and evening freshman- and sophomore-level students prior to their admittance into degree-granting colleges. The advisers are professionally trained to deal with career planning, major selection, course loads, choices of subject, scholastic achievement, study habits, outside work loads and other circumstances, both personal and academic, that impact classroom performance.

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 students' intellectual abilities to their cultural or professional height. This foundation includes English composition, literature, speech, mathematics, natural science, social science, Western Cultural Traditions, World 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 General Studies, is academically prepared to continue into realms of higher education; this curriculum has proved the most advantageous starting point for a student, no matter the student's eventual scholastic goal. It is equally valuable to the enrollee who is indecisive about a professional future and to the enrollee who arrives at the University convinced of what the enrollee wishes to become.

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

- Completion of a minimum of two courses totalling at least six credits selected from two of the following four sets of course offerings:
 - 3250:244 *Introduction to Economic Analysis*, three credits. (A student majoring in engineering is advised to take this as one of the student's selections.)
 - or
 - 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.)
 - or
 - 3250:100 *Introduction to Economics*, three credits.
 - 3400:201 *United States History to Civil War*, four credits.
 - or
 - 3400:202 *United States History since Civil War*, four credits.
 - 3700:100 *Government and Politics in United States*, four credits.
 - 8850:100 *Introduction to Sociology*, four credits.
 - or
 - 3870:150 *Cultural Anthropology*, four credits.
- For a Community and Technical College major only, completion of the following three courses (total of nine credits):
 - 2040:240 *Human Relations*, three credits.
 - 2040:242 *American Urban Society*, three credits.
 - 2040:247 *Survey of Basic Economics*, three credits.

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

†Minimum of six credits of science. This requirement may be met either by taking courses in the departments of biology, chemistry, geology or physics, or by any combination of two out of four of the natural science courses, 1100:221,2,3,4 (three credits each).

DEVELOPMENTAL PROGRAMS

The Department of Developmental Programs provides academic support for all University students, especially those who wish to strengthen their educational preparation in specific areas or who have been out of school for a number of years and feel the need for remediation. Through developmental courses, individual tutoring and work in the writing, reading, and math 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, reading and math 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 school of nursing at 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:

		<i>Credits</i>
3100:130	Microbiology	3
3100:208	Anatomy and Physiology	4
3100:209	Anatomy and Physiology	4
3750:100	Introduction to Psychology	3
3750:230	Developmental Psychology	4
3850:100	Introduction to Sociology	4
7400:133	Nutrition Fundamentals	3
7400:316	Science in Nutrition	4

Reserve Officer Training Corps (ROTC)

1500: AEROSPACE STUDIES

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

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

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

Programs

Four-Year Program

Students of The University of Akron may pursue the four-year program. (Must be a full-time student during the last two years of the program.) Enrollment procedures for the first two years of Air Force ROTC known as the general military course (GMC) are the same as for any other University courses. The GMC consists of one hour of classroom work and one hour of *Aerospace Studies Laboratory* (Leadership Laboratory) each week and provides 1.5 semester credits.

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

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

Two-Year Program

The basic requirement for entry into the two-year program is to have two academic years remaining, either at the undergraduate or the graduate level, or a combination of the two. Entry into the POC is competitive in nature. A two-year program applicant must meet the qualifications described below. A student in the POC receives a non-taxable monthly subsistence allowance of \$100. Applications for the two-year program should be made as early in the academic year as possible so that all requisites may be completed in time for summer field training. The POC consists of three hours of classroom work and one hour of *Aerospace Studies Laboratory* (Leadership Laboratory) each week, and provides three semester credits.

Supplemental Courses

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

Field Training

In the summer prior to entering the POC, all four-year program AFROTC cadets and student applicants for the two-year program must attend field training at an Air Force base where they will learn and make use of training and leadership techniques in close contact with other cadets.

The four-year program student spends four weeks at an encampment, while field training for the two-year program applicant lasts six weeks. The additional two weeks for the two-year program applicant are used to cover the academic work taken by the cadet who completed the General Military Course (GMC). Uniforms, lodging and meals are provided without charge, and travel pay is authorized to and from the individual's home or school. The cadet and applicant receive pay at approximately half the rate of a second lieutenant.

Flight Training

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

Base Visits

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

Requirements for Admission

General Qualifications

- Be a citizen of the United States or applicant for naturalization.
- Be in sound physical condition.
- Be of good moral character.
- Meet age requirements as follows:
 - AFROTC four-year scholarship recipients must be at least 17 years of age and able to complete commissioning requirements prior to age 25.
 - If not on scholarship status, but designated for pilot or navigator training, be able to complete all commissioning requirements prior to age 26½.
 - If not on scholarship status and not qualified for flying training, be able to complete commissioning requirements prior to age 30.

Additional Qualifications for Professional Officer Course

- Be at least 17 years of age.
- For the four-year program cadet, complete the General Military Course or receive credit for junior ROTC, Civil Air Patrol, military school training or prior service.
- For the two-year student applicant, complete the six-week field training course.
- Receive a satisfactory score on the Air Force Officer Qualifying Test (AFOQT).
- Pass an Air Force physical examination.
- Be interviewed and selected by a board of Air Force Officers.
- Enlist in the Air Force Reserve prior to entry into the Professional Officer Course.

Requirements for Commissioning

- Complete the POC and field training.
- Earn at least a baccalaureate degree.
- Agree to accept, if offered, a commission in the United States Air Force.
- Agree to serve for a period of not less than four years on active duty after commissioning; or, if accepted for a flying training program, agree to serve for six years after navigator training or nine 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 one through four years. Every scholarship pays for tuition, and most laboratory, textbook and incidental fees.

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

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

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

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

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

Financial Allowances

A cadet enrolled in the POC will receive a non-taxable subsistence allowance of \$100 per month.

Uniforms and Textbooks

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

1600: 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 College may enroll in the Army four-year program. Freshmen and sophomores enroll in the basic military course Military Science I and II (MS I, MS II) of the four-year program for two credits per semester. MS I and II classes are held three hours each week, to include a mandatory one-hour leadership laboratory, and cover studies in: military history, leadership fundamentals, basic military skills, first aid, Leadership Assessment Program, and Army organization. Enrollment in MS I or MS II constitutes no obligation to military service or continuance into the advanced course and the credits received can be applied toward elective requirements. A student who completes the basic course (MS I and MS II) is eligible for and may apply for enrollment into the advanced course, which may lead to a commission. Advanced course studies are held four hours per week, to include a mandatory one-hour leadership laboratory, for three semester credits. The material includes: advanced leadership, application of tactics, ethics and professionalism, methods of instruction, resource management, and the responsibilities of an officer. The advanced course includes a six-week paid summer camp attended usually between the junior and senior year. A student in the advanced course is paid \$100 per month, or approximately \$1,000 per school year. Upon commissioning, the student will serve either with the Reserves, the National Guard or on active duty.

Two-Year Program

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

Cadet Activities

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

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

Requirements for Admission

Basic Course: None.

Advanced Course:

- Completion of basic course, basic summer camp or prior service.
- Quality 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 to include the following types of college courses:
 - Written Communications
 - Human Behavior
 - Computer Literacy
 - Math Reasoning
- Completion of the advanced ROTC course (MS III and IV).
- Completion of advanced summer camp.
- Pass Army physical fitness test.
- Agree to fulfill a service obligation as follows:

ROTC	Serve as a commissioned officer on active duty,
Advanced Course	in the Army Reserve or in the Army National Guard.
Basic Course	No obligation.

Scholarships

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

Uniforms and Textbooks

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

Financial Allowances

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

SPECIAL RESERVE AND NATIONAL GUARD PROGRAMS

Simultaneous Membership Program (SMP)

Members of the Reserves or National Guard who are enrolled full-time in the University may enroll in advanced ROTC if they apply for SMP membership through their unit, are accepted by the professor of military science, and meet all other admission requirements for the advanced course (MS III and MS IV). Commissioning may occur upon completion of the advanced ROTC course, and the member will serve as an officer in the Reserves or National Guard. An SMP member receives \$100 tax-free per month while in ROTC, is promoted to an E-5 officer trainee in the reserve/guard unit and receives E-5 pay.

Buchtel College of Arts and Sciences

Claibourne E. Griffin, Ph.D., *Dean*
William H. Beyer, Ph.D., *Associate Dean*
William A. Francis, Ph.D., *Associate Dean*
Randall H. King, Ph.D., *Associate Dean*

OBJECTIVES

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

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

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

When Buchtel College became the Municipal University of Akron the original name was retained in the College of Liberal Arts which was subsequently renamed the Buchtel College of Arts and Sciences. Then, and now, the liberal arts goal has been to offer broad training to the college student so that the student can prosper in life and sustain a creative appreciation of the arts and sciences.

The college is composed of the following three administrative divisions.

Humanities Division

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

Natural Sciences Division

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

Social Sciences Division

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

COLLEGE REQUIREMENTS

Admission

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

Degrees Awarded

Humanities Division: Bachelor of Arts.

Natural Sciences Division: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Cytotechnology, Bachelor of Science in Medical Technology.

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

Baccalaureate Degrees

A student transferring into the college must have completed the equivalent of, or taken, 1100:111,2 English Composition I, II, 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.
- Three credits of mathematics or statistics earned in the Department of Mathematical Sciences.
- A minimum of 47 credits (exclusive of workshops and General Studies courses) consisting of either:
 - 300/400-level courses both in and outside the student's major;
 - any courses outside major department as specified in and approved by the student's major adviser and the department or division head (permission should be obtained prior to enrollment), except workshops and General Studies courses.
- Demonstration of ability to use English and another language:
 - for English, this ability will be shown by the completion of the General Studies sequence of 1100:111,2 English Composition I, II;
 - for the other language, this ability will be shown by the completion of a second year of a foreign language on the University level or by demonstrating equivalent competence through a test approved by the Department of Modern Languages.
- Completion of requirements in a major field of study (see **Programs of Instruction**) and the recommendation of the student's major department.
- Attaining a minimum grade-point average of 2.00 in all work attempted in the major field at The University of Akron.
- Attaining a minimum grade-point average of 2.00 in all work in the major field, including transfer credits.
- Fulfilling the University requirements for a baccalaureate degree set forth in **Section 3** of this *Bulletin*.

Any student who wishes to receive a second baccalaureate degree must complete 32 credits of coursework in addition to the credits necessary for the first degree; 16 of the 32 credits must be in 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 departmental major offers may elect a divisional major and qualify in the general area of the humanities, natural sciences or social sciences. The exact requirements for these majors will be found on the following pages. As soon as the student contemplating a divisional major is transferred to the college, the chair 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 requirement 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:

		Credits
5100:150	Introduction to Professional Education	3
5100:250	Human Development and Learning	3
5100:350	Educational Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:265	Introduction to Secondary Education	1
5300:275	Exploratory Experience	1
5300:310	Principles of Teaching in the Secondary School	3
5300:325	Content Reading in Secondary School	3
5300:345	Human Relations in Secondary Education	1
5300:355	Managing Classroom Behavior at the Secondary Level	1
5300:375	Exploratory Experience	1
5300:411	Instructional Techniques Secondary Education	4
5300:445	Minicomputer Applications in Secondary Classroom	1
	or	
5300:403	Student Teaching Seminar	1
5300:455	Career Options in Secondary Education	1
5300:495	Student Teaching	8

Minor Areas of Study

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

PROGRAMS OF INSTRUCTION

3100: Biology

Bachelor of Science

- The General Studies and the second year of a foreign language.*
- Core requirements:

		Credits
3100:111,2	Principles of Biology	8
3100:211	General Genetics	3
3100:217	General Ecology**	3
3100:316	Evolutionary Biology**	3
3100:311	Cell Biology**	3
3150:132,3	Principles of Chemistry	7
3150:134	Qualitative Analysis	2
3150:201,2	Organic Chemistry and Biochemistry I and II††	8
	or	
3150:263,4,5,6	Organic Chemistry	10
3450:145	College Algebra	4
3450:149	Precalculus Mathematics	4
3470:261	Statistics††	2

- 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.

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

*Second year of foreign language and Eastern Civilizations not required for B.S. in Medical Technology.

**Not required for B.S. in medical technology.

††Required for B.S. in cytotechnology.

Areas of Specialization

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

Botany

3100:342	Flora and Taxonomy II	3
3100:440	Mycology	4
	or	
3100:443	Phycology	4
3100:445	Plant Morphology	4
3100:447	Plant Physiology	3
	Electives:	
3100:441	Plant Development	4
3100:442	Plant Anatomy	3
3100:400	Food Plants	2

Ecology

3100:422	Conservation of Biological Resources	4
3100:424	Freshwater Ecology	3
3100:464	General and Comparative Physiology	4
3300:275	Specialized Writing	3
3350:495	Soil and Water Field Studies	3
3370:101	Introductory Physical Geology	4
3450:221,2	Analytic Geometry-Calculus I and II	8
3470:251-6	Statistics	6
4100:206	FORTAN Programming and/either	
3100:331	Microbiology	4
3100:426	Applied Aquatic Ecology	3
3100:440	Mycology	4
	or	
3100:443	Phycology	4
3150:423	Quantitative Analysis and	
3150:427	Analytical Chemistry Lecture or one course from each group below:	3
3100:451	General Entomology and	4
3100:453	Invertebrate Zoology	4
3100:456	Ornithology and	3
3100:458	Vertebrate Zoology	4
3100:341	Flora and Taxonomy I and	
3100:342	Flora and Taxonomy II	3

Microbiology

3100:331	Microbiology	4
3100:431	Bacterial Physiology or	3
3100:433	Pathogenic Bacteriology or	4
3100:432	Advanced General Bacteriology or	4
3100:435	Virology	4
3100:437	Immunology	4
	Electives:	
3100:433	Pathogenic Bacteriology	4
3100:440	Mycology or	4
3100:443	Phycology	4
3100:454	Parasitology	4
3100:461,2	Human Physiology	8
3100:481	Advanced Genetics	3
3150:401,2	Biochemistry	6

Physiology and Pre-Professional

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

3100:461,2	Human Physiology	8
3100:466,7	Developmental Anatomy	8
3650:261,2	Physics for Life Sciences I and II	8
	Electives:	
3100:365	Histology I	3
3100:465	Advanced Cardiovascular Physiology	3
3100:480	Radiation Biology	3
3150:401,2	Biochemistry	6
3450:211,2	Calculus for the Life Sciences I, II	6
3650:267,8	Life Sciences Physics Computations I and II	2

Zoology

A minimum of 13 credits from the following:		
3100:428	Biology of Behavior	2
3100:453	Invertebrate Zoology	4
3100:458	Vertebrate Zoology	4
3100:464	General and Comparative Physiology	4
3100:466,7	Developmental Anatomy	8

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

3100:342	Flora and Taxonomy II	3
3100:440	Mycology or	4
3100:443	Phycology	4
3100:445	Plant Morphology	4
	Electives:	
3100:365,6	Histology	6
3100:400	Food Plants	2
3100:422	Conservation of Biological Resources	4
3100:451	General Entomology	4
3100:454	Parasitology	4
3100:456	Ornithology	3

High School Teaching

For state certification requirements, see the College of Education and the Buchtel College of Arts and Sciences "Preparation for High School Teaching," Section 4 of this *Bulletin*.

3100:265	Introductory Human Physiology	4
3100:342	Flora and Taxonomy II	3
3100:383	Laboratory Techniques and Instrumentation	2
3100:453	Invertebrate Zoology	4
3100:458	Vertebrate Zoology	4
Electives:		
3100:331	Microbiology	4
3100:426	Applied Aquatic Ecology	3
3100:428	Biology of Behavior	2
3100:440	Mycology	4
	or	
3100:443	Phycology	4
3100:445	Plant Morphology	4
3100:464	General and Comparative Physiology	4

Bachelor of Science in Medical Technology*

- A foreign language and Eastern Civilizations are not required.
- The following credits are required:

3100:111.2	Principles of Biology	8
3100:206.7	Anatomy and Physiology	8
3100:211	General Genetics	3
3100:331	Microbiology	4
3100:383	Laboratory Techniques and Instrumentation	2
3100:384	Techniques and Instrumentation Laboratory	1
3100:433	Pathogenic Bacteriology	4
3100:437	Immunology	4
3100:454	Parasitology	4

- The first three years of instruction are given in the University. The senior year consists of a minimum of 32 credits of course work 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: Cleveland Clinic Foundation, Cleveland Metropolitan General Hospital, Cooperative Medical Technology Program of Akron, Ohio Valley Hospital (Steubenville), Saint Alexis Hospital (Cleveland), and Saint Thomas Hospital Medical Center (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 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*

- A foreign language is not required.
- The first three years of instruction are given in the University. The senior year consists of a maximum 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:

3100:111.2	Principles of Biology	8
3100:206.7	Anatomy and Physiology	8
3100:211	General Genetics	3
3100:311	Cell Biology	3
3100:331	Microbiology	4
3100:365.6	Histology I, II	6
3100:383	Laboratory Techniques and Instrumentation	2
3100:384	Techniques and Instrumentation Laboratory	1
3100:437	Immunology	4

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	3
3400:478	Western Science since 1800	3

3400:479	Western Technology	3
3600:464	Philosophy of Science	3
• At least 24 credits in the biological sciences which must include:		
3100:111.2	Principles of Biology	8
3100:211	General Genetics	3
3100:217	General Ecology	3
3100:311	Cell Biology	3
	or	
3100:130	Principles of Microbiology (with permission)	3
3100:316	Evolutionary Biology	3

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

3150: Chemistry**Statement of Policies — Admission**

For students enrolled at The University of Akron and for students wishing to transfer directly to Buchtel College of Arts and Sciences from other institutions, the following criteria must be satisfied for admission to the Department of Chemistry:

- The student must be admissible to Buchtel College of Arts and Sciences.
- Principles of Chemistry I and II, Qualitative Analysis, Organic Chemistry Lecture I, Analytical Geometry and Calculus I and II, and Elementary Classical Physics I must be completed, and the grades must have been recorded. For the Bachelor of Arts in Chemistry program, Elementary Classical Physics I may be replaced by Physics for Life Sciences I.
- A minimum grade-point average of 2.30 must be met in all university work, including transfer credits.
- A minimum grade-point average of 2.30 must be met in all work in major field, including transfer credits.
- A minimum grade-point average of 2.30 must be met in all work in the major on The University of Akron campus.
- A minimum grade-point average of 2.00 must be met in all work in mathematics, including transfer credits.
- A minimum grade-point average of 2.00 must be met in all work in physics, including transfer credits.

Only credits earned at an accredited institution of postsecondary education, as recognized by The University of Akron, will be considered for transfer credit, and only those grades will be considered in the grade-point average.

An exception to this admission policy is that Honors Program students who choose chemistry as their major are automatically admitted to the department.

Retention

Students in the chemistry programs must maintain a minimum grade-point average of 2.30 overall and a minimum of 2.30 grade-point average in chemistry courses in order to remain in the program. A student who fails to maintain the 2.30 cumulative average, including transfer credits, will be placed on academic probation. Failure to raise the average to 2.30 in a period of one semester or one 10-week summer session will result in dismissal from the program. The student may not apply for readmission for at least one semester.

A student receiving a grade below C- in a required chemistry course will be required to repeat the course.

Graduation

The student must earn a 2.30 cumulative grade-point average in chemistry coursework on The University of Akron campus and a 2.30 cumulative grade-point average for all chemistry coursework including transfer credits.

Grades below C- obtained in any course at other institutions will not apply toward a chemistry degree at The University of Akron. Grades below C- obtained in chemistry courses will not apply toward the chemistry degree.

The student must earn a 2.30 cumulative grade-point average in all degree coursework.

Bachelor of Science

- The General Studies and the second year of a foreign language.
 - At least 45 departmental credits including:
- | | | |
|----------|----------------------------------|---|
| 3150:132 | Principles of Chemistry I | 4 |
| 3150:133 | Principles of Chemistry II | 3 |
| 3150:134 | Qualitative Analysis | 2 |
| 3150:263 | Organic Chemistry Lecture I | 3 |
| 3150:264 | Organic Chemistry Lecture II | 3 |
| 3150:265 | Organic Chemistry Laboratory I | 2 |
| 3150:266 | Organic Chemistry Laboratory II | 2 |
| 3150:313 | Physical Chemistry Lecture I | 3 |
| 3150:314 | Physical Chemistry Lecture II | 3 |
| 3150:380 | Advanced Chemistry Laboratory I | 2 |
| 3150:381 | Advanced Chemistry Laboratory II | 2 |
| 3150:423 | Analytical Chemistry I | 3 |

*See Bachelor of Science for additional requirements.

3150:424	Analytical Chemistry II	3
3150:472	Advanced Inorganic Chemistry	3
3150:480	Advanced Chemistry Laboratory III	2
3150:481	Advanced Chemistry Laboratory IV	2
• At least two of the following advanced courses:		
3150:401	Biochemistry Lecture I	3
3150:402	Biochemistry Lecture II	3
3150:405	Biochemistry Laboratory	2
3150:415	Chemical Instrumentation	3
3150:416	Instrumental Methods of Analysis	3
3150:421	Qualitative Organic Analysis	4
3150:463	Advanced Organic Chemistry	3
3150:499	Research Problems	2
3650:481	Methods of Mathematical Physics I	3
9871:407	Polymer Science	4
• Mathematics:		
3450:221	Analytic Geometry-Calculus I	4
3450:222	Analytic Geometry-Calculus II	4
3450:223	Analytic Geometry-Calculus III	4
3450:235	Differential Equations	3
• Physics:		
3650:291,2	Elementary Classical Physics I, II	8
• Recommended:		
4100:206	FORTRAN (Science and Engineering)	2
• Graduates of the Bachelor of Science program receive a degree certified by the American Chemical Society.		

Bachelor of Arts

• The General Studies and the second year of a foreign language.		
• Chemistry:		
3150:132	Principles of Chemistry I	4
3150:133	Principles of Chemistry II	3
3150:134	Qualitative Analysis	2
3150:263	Organic Chemistry Lecture I	3
3150:264	Organic Chemistry Lecture II	3
3150:265	Organic Chemistry Laboratory I	2
3150:266	Organic Chemistry Laboratory II	2
3150:313	Physical Chemistry Lecture I	3
3150:314	Physical Chemistry Lecture II	3
3150:380	Advanced Chemistry Laboratory I	2
3150:423	Analytical Chemistry I	3
3150:424	Analytical Chemistry II	3
• At least two courses from the following:		
3150:381	Advanced Chemistry Laboratory II	2
3150:401	Biochemistry Lecture I	3
3150:402	Biochemistry Lecture II	3
3150:405	Biochemistry Laboratory	2
3150:415	Chemical Instrumentation	3
3150:416	Instrumental Methods of Analysis	3
3150:421	Qualitative Organic Analysis	4
3150:463	Advanced Organic Chemistry	3
3150:472	Advanced Inorganic Chemistry	3
3150:480	Advanced Chemistry Laboratory III	2
3150:481	Advanced Chemistry Laboratory IV	2
3150:499	Research Problems	2
9871:401	Introduction to Elastomers	3
9871:402	Introduction to Plastics	3
9871:407	Polymer Science	4
9871:411	Molecular Structure and Physical Properties of Polymers I	3
9871:412	Molecular Structure and Physical Properties of Polymers II	2
9871:413	Molecular Structure and Physical Properties of Polymers III	2
• Physics:		
3650:291,2	Elementary Classical Physics I and II or Physics for the Life Sciences I and II	8
3650:261,2	Physics for the Life Sciences I and II	8
• Mathematics:		
3450:149	Precalculus Mathematics	4
3450:221,2	Analytic Geometry-Calculus I and II (or equivalent)	8
• Recommended:		
4100:206	FORTRAN (Science and Engineering)	2

Part-Time Scheduling

A two-year cycle of evening offerings is maintained for 200-level courses as follows:

- Year 1 201, 202
- Year 2 263, 264, 265 and 266.

A three-year cycle of evening offerings is maintained for 300/400-level courses as follows:

- Year 1 313, 314, 380 and 381
- Year 2 463, 472
- Year 3 423, 424, 480 and 481

Cooperative Education Program in Chemistry

Qualifications

Arrangements for entry into the program are on an individual basis and are initiated by the student during the second year of undergraduate study. Full-time B.S. chemistry majors at The University of Akron must meet the following requirements:

- Satisfactory completion of 60 credits with a quality point average of at least 2.3 in chemistry courses and on schedule in their curriculum.
- Acceptance by a cooperative education coordinator or director following a series of interviews.

Part-time students must have completed 60 credits with a 2.3 average and be on schedule in their curriculum. They are expected to become full-time students while not on their co-op job.

Transfer students must have preparation equivalent to the minimum requirements for The University of Akron students and must have completed at least one semester of full-time study at The University of Akron.

Placement in an industrial or other position is not guaranteed, and foreign students should recognize that many companies require U.S. citizenship or possession of a permanent visa. In any case, final acceptance of a student for any position is the decision of the employer.

Schedule

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

Year	Fall	Spring	Summer
1	School	School	Vacation/School
2	School	School	Vacation/School/Work
3	School	Work	School
4	Work	School	Work
5	School	School	—

Admission to Program

A student who desires to participate in the Cooperative Education Program should fill out a Personal Data form and submit it to the chemistry department head. The student should then meet with a member of the Cooperative Education staff to discuss the availability of prospective employers and to sign a Cooperative Education Agreement and a grade release form which will become effective upon employment. Students will be expected to remain with their employer for all co-op work periods in order to provide a progression of experience and responsibility. Employment must have approval of the department and the Cooperative Education director, but the University does not guarantee employment.

Registration

Students register for Cooperative Work Periods in the same manner that a student registers for any other University courses. The courses are:

3150:300	Cooperative Education Work Period	Summer, year two
3150:301	Cooperative Education Work Period	Spring, year three
3150:302	Cooperative Education Work Period	Fall, year four
3150:403	Cooperative Education Work Period	Summer, year four

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

A registration fee for each work period is charged to offset the expenses of administering the Co-op Program. Upon completion of a work period, a statement will appear on the student's official transcript listing the course number, title, and name of employer. In 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.
- Submission of a written Work Report and its approval by the department head and the Cooperative Education staff.
- Submission of a Cooperative Work Period Summary Form.

3200: Classics

3200: Classics; 3210: Greek; 3220: Latin

Bachelor of Arts

Classics

• The General Studies.		
• At least 39 departmental credits including the following:		
3200:189	Mythology	3
3200:313	Archaeology of Greece	3
3200:314	Archaeology of Rome	3
3200:361	Literature of Greece	3
3200:362	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
3400:438	Bronze Age and Archaic Greece	3
3400:439	Classical and Hellenistic Greece	3
3400:440	Roman Republic	3
3400:441	Rome Empire	3

- Electives in Classics 6
- Language credits (a minimum of four semesters of either Greek or Latin; 12 credits) must be above the 200 level in order to be included in the 39 credits. In the case of a Latin major, three credits must be taken during the senior year.
- The student wishing to be certified for public school teaching with Latin as the principal teaching field must complete the state requirements in that language. In addition, the required credits in a second academic teaching field must be completed. See "Teaching Fields," College of Education, **Section 4** of this *Bulletin*.

Classical Civilization

- The General Studies and the second year of a foreign language.
- At least 36 department credits including the following:

3200:189	Mythology	3
3200:313	Archaeology of Greece	3
3200:314	Archaeology of Rome	3
3200:361	Literature of Greece	3
3200:362	Literature of Rome	3
- One of the following courses:

3400:304	The Ancient Near East	3
3400:307	The Eastern Roman Empire	3
- One of the following groups of courses:

(A)

3400:305	Greece	3
3400:440	The Roman Republic	3
3400:441	The Roman Empire	3

(B)

3400:306	Rome	3
3400:438	Bronze Age and Archaic Greece	3
3400:439	Classical and Hellenistic Greece (or an approved substitute)	3
- Electives in Classics, Ancient Philosophy or Cultural Anthropology 9

It is strongly recommended that a major in classical civilization fulfill the foreign language requirement by taking two years of Greek or Latin.

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
- Departmental Electives — 15 credits.
- Mathematics:

3450:215	Concepts of Calculus I	4
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- Statistics (one of the following):

3470:460	Statistical Methods	4
	or	
3470:461	Applied Statistics	4
- Electives — 30-32 credits.

Bachelor of Science in Labor Economics

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

3250:201	Principles of Macroeconomics	3
3250:202	Principles of Microeconomics	3
3250:330	Labor Problems	3
3250:410	Microeconomics	3

Two of the following:

3250:333	Labor Economics	3
3250:430	Labor Market Policy	3
3250:431	Labor and the Government	3
3250:432	Collective Bargaining	3
- Departmental Electives. 9
- Mathematics:

3450:215	Concepts of Calculus I	4
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- Statistics (one of the following):

3470:460	Statistical Methods	4
	or	
3470:461	Applied Statistics	4
- At least eight credits in 300/400-level courses geography, history, political science, psychology or sociology.
- Electives — 45-47 credits.

Note: 3250:100 Introduction to Economics cannot be used to satisfy the requirements for a major or minor in economics.

3300: English

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 35 credits in the department including the following course and distribution requirements:

Required courses:

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

*The Department of English recommends that students take English Literature I before English Literature II and American Literature I before American Literature II.

Distribution of requirements:

One linguistics 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 1800 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:
- | | | |
|----------|-----------------------------------|---|
| 3300:280 | Poetry Appreciation | 3 |
| 3300:— | an advanced course in composition | 3 |
- Electives — 40 credits.

3350: Geography

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 26 departmental credits including the following:

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
3350:481	Geographic Research Methods	3
3350:483	Spatial Analysis	3
3350:496	Field Research Methods	3
- At least one course from the following:

3350:350	Geography of the United States and Canada	3
3350:353	Latin America	3
3350:356	Europe	3
3350:358	U.S.S.R.	3
3350:360	Asia	3
3350:363	Africa South of the Sahara	3
- Electives — 46 credits.

Bachelor of Science in Geography/Cartography*

- Completion in the Community and Technical College of the surveying option in the associate degree program in surveying and construction technology or the associate degree program in drafting technology.
- Completion of General Studies requirements.
- Completion of at least 47 credits of 300/400-level courses in addition to the General Studies 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.

*Students planning to pursue the Bachelor of Science in Geography/Cartography should select courses 2040:242 American Urban Society and 247 Survey of Basic Economics as general electives.

- 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
3350.483	Introduction to Spatial Analysis	3
3350.496	Field Research Methods	3

3370: Geology

Bachelor of Science

Engineering Geology

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

- At least 39 departmental credits including the following:

3370.101	Introductory Physical Geology	4
3370.102	Introductory Historical Geology	4
3370.230	Crystallography and Nonsilicate Mineralogy	3
3370.231	Silicate Mineralogy and Petrology	3
3370.301	Engineering Geology	3
3370.324	Sedimentation and Stratigraphy	3
3370.350	Structural Geology	4
3370.446	Exploration Geophysics††	3
3370.496	Geology Field Camp	6
	Geology Electives from List	6

- Non-Geology Required Courses:

3150.132.3	Principles of Chemistry I and II	7
3450.221, 2, 3	Analytical Geometry and Calculus I, II, and III	12
3450.235	Differential Equations	3
3650.291.2	Elementary Classical Physics I and II	8
4300.201	Statics	3
4300.202	Introduction to Mechanics of Solids	3
4300.203	Dynamics	3
4300.313	Soil Mechanics	3
4300.314	Geotechnical Engineering	3
4600.310	Fluid Mechanics	3
	Non-Geology Electives	4

- Geology Elective List

3370.210	Geomorphology	3
3370.421	Coastal Geology	3
3370.432	Optical and X-ray Methods	3
3370.435	Petroleum Geology	3
3370.436	Coal Geology	3
3370.437	Economic Geology	3
3370.470	Geochemistry	3
3370.474	Groundwater Hydrology	3

- Non-Geology Elective List

3460.201-7	Introduction to Programming Languages (or equivalent)	2
4300.341	Hydraulic Engineering	3
4300.414	Design of Earth Structure	3
4300.445	Hydrology	3
4600.305	Thermal Science	2

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
3370.230	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
3370.395	Field Methods in Geology	2
3370.432	Optical and X-Ray Methods	3
3370.433	Petrography	3
3370.496	Geology Field Camp	6
	400-level courses	5

- Non-geology courses required for majors:

3150.132.3	Principles of Chemistry I and II	7
3450.221.2	Analytic Geometry-Calculus I and II	8
3650.291.2	Elementary Classical Physics I and II†	8

- Electives:

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

**See department head for possible substitutions.

†Undergraduate geology adviser may approve substitution of 3650.261.2.

††May also be satisfied by: 4300.418 Soil and Rock Exploration.

Geophysics

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

- At least 30 departmental credits including the following:

3370.101	Introductory Physical Geology	4
3370.102	Introductory Historical Geology	4
3370.350	Structural Geology	4
3370.441	Fundamentals of Geophysics	3
3370.446	Exploration Geophysics	3
3370.496	Geology Field Camp	6
	Geology Electives (as approved by geophysics adviser)	6

- Science Electives — 9 credits. At least three of the following courses:

3460.201	Introduction to FORTRAN Programming	2
	or	
	Equivalent	
3650.350	Computational Physics	3
3650.406	Waves	3
3650.431	Mechanics I	3
3650.436	Electromagnetism I	3

3650.431 and 3650.436 are strongly recommended for students planning to pursue a graduate degree in geophysics.

- Non-geology required courses:

3150.132.3	Principles of Chemistry I and II	7
3450.221.2,3	Analytic Geometry-Calculus I, II and III	12
3450.235	Differential Equations	3
3650.291.2	Elementary Classical Physics I and II	8

Bachelor of Arts

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

- At least 44 departmental credits including the following:

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
3370.496	Geology Field Camp	6
	Elective geology courses (minimum eight credits at the 300/400 level)	19

- Non-geology courses required for majors:

3150.132	Principles of Chemistry I	4
3450.149	Precalculus	4

- At least seven credits from the following:

3100.111.2	Principles of Biology (or equivalent)	4
3150.133	Principles of Chemistry II (or equivalent)	3
3650.291.2	Elementary Classical Physics I and II†	4

3400: History

Bachelor of Arts

- The General Studies and the second year of a foreign language (French, German, Spanish or Russian suggested).

- A minimum of 32 credits in history, but up to six credits in cognate fields may be substituted with the adviser's approval. These credits must include some distribution of United States and European or non-United States history; and 3400.405, Historical Methods (taken in the sophomore or junior year). The minimum shall be 16 credits in 300/400-level history courses.

3450: Mathematics

Bachelor of Science

Bachelor of Arts

Mathematics

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

- At least 40 departmental credits including:

3450.221,2,3	Calculus	12
3450.307	Fundamentals of Advanced Mathematics	3
3450.312	Linear Algebra	3
3450.411.2	Abstract Algebra	6
3450.421.2	Advanced Calculus	6
3450.445	Topology	7
	Math electives	7

- Complete nine credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department.

- For the Bachelor of Arts degree; complete 18 credits of humanities or social sciences beyond the General Studies. The 18 credits are to be from more than one department.

- Electives — 17 credits.

Applied Mathematics

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

3450.221,2,3	Calculus	12
3450.235	Differential Equations	3
	or	
3450.335	Introduction to Ordinary Differential Equations	3
3450.307	Fundamentals of Advanced Mathematics	3
3450.312	Linear Algebra	3
3450.421,2	Advanced Calculus	6
3450.427	Introduction to Numerical Analysis	3
3450.436	Mathematical Models	3
3450.461	Applied Statistics	4
	Math electives	3

- Complete a six-credit sequence at the 300/400 level in some approved area, such as chemistry, physics, engineering, economics, etc.
- Complete nine credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department. These hours may include the six-hour sequence in the applied area described.
- For the Bachelor of Science degree: complete 18 credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department.
For the Bachelor of Arts degree: complete 18 credits in the humanities and social sciences beyond the General Studies. These 18 credits are to be from more than one department.
- Electives — 17 credits.

Cooperative Education Program — Mathematical Sciences**Schedule**

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

Year	Fall	Spring	Summer
1	School	School	Vacation/School
2	School	School	Vacation/School
3	School	Work	School
4	Work	School	Work
5	School	School	

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 and 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.

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 adviser 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.

Usually, work progresses satisfactorily 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.

3460: Computer Science**Bachelor of Science**

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

3460.209	Introduction to Computer Science	3
3460.210	Computer Science II	3
3460.306	Assembly Language Programming	3
3460.307	Applied Systems Programming	3
3460.316	Introduction to Data Structures	3
3460.330	Survey of Programming Languages	3
3460.426	Operating Systems	3
3460.430	Theory of Programming Languages	3
3460.465	Computer Organization	3

Option I

- Other required courses:

3450.208	Introduction to Discrete Mathematics	4
3450.221	Analytic Geometry-Calculus I	4
3450.222	Analytic Geometry-Calculus II	4
3460.418	Introduction to Discrete Structures	3
3460.428	Unix System Programming	3
3470.461	Applied Statistics	4

Select one of the following two courses:

3450.312	Linear Algebra	3
3450.428	Numerical Linear Algebra	3

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

Option II (Business)

- Other required courses:

3450.208	Introduction to Discrete Mathematics	4
3450.215	Concepts of Calculus I	4
3450.216	Concepts of Calculus II	4
3460.302	Programming Applications with COBOL	3
3460.475	Data Base Management	3
3470.461	Applied Statistics	4
6200.201	Accounting I	4
6200.202	Accounting II	4

Select two of the following courses:

6400.371	Business Finance	3
6500.301	Management: Principles and Concepts	3
6600.300	Marketing Principles	3

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

3470: Statistics**Bachelor of Arts
Bachelor of Science**

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

3450.221,2,3	Analytic Geometry-Calculus I, II and III	12
3450.235	Differential Equations	3
3450.312	Linear Algebra	3
3470.451,2	Theoretical Statistics I, II	6
3470.461,2	Applied Statistics I, II	8

Options**Option I**

- Other Required Courses:

3450.421	Advanced Calculus I	3
3450.422	Advanced Calculus II	3
	Electives — approved 300/400-level mathematical sciences courses	5

Option II

- Other Required Courses:

3470.415	Mathematical Concepts for Statistics	4
3470.480	Statistical Computer Applications	3
3470.495	Statistical Consulting	2
	Electives — approved 300/400-level statistical courses	2

*The courses 3450.113-39 *Modern University Mathematics*, 3450.147,8 *Elementary Functions*, 3450.149 *Pre-Calculus Mathematics*, 3450.301 *History of Mathematics* and 3470.251-9 *Introduction to Statistics* do not meet major requirements.

Option III (Actuarial Sciences BS only)

• Other Required Courses:

3450:138	Mathematics of Finance	1
3470:415	Mathematical Concepts for Statistics or	4
3450:421, 422	Advanced Calculus	6
3450:471, 472	Actuarial Science I, II	6

• Select two of the following:

3450:427	Numerical Analysis	3
3450:428	Numerical Linear Algebra	3
3450:436	Mathematical Models	3
3450:469	Reliability Models	3
6500:421	Operations Research	3

• For the Bachelor of Science degree: complete 18 credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department.

The recommended area of concentration for the Actuarial Sciences degree:

3250:244	Introduction to Economic Analysis	3
6200:201, 202	Accounting I, II	8
6400:318	Risk Management and Insurance	3
6400:371	Business Finance	3

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 — 13-17 credits.

3500: Modern Languages

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

Bachelor of Arts

French:

- The General Studies.
- Completion of 27 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 and three credits in advanced grammar.

German:

- 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.

Spanish:

- The General Studies.
- Completion of 28 credits above the second year (200 level); including at least one language course, one literature course, and one cultural course, all at the 400 level.

3600: Philosophy

Bachelor of Arts

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

3600:101	Introduction to Philosophy	3
3600:120	Introduction to Ethics	3
3600:170	Introduction to Logic	3
3600:211	History of Ancient Philosophy	3
3600:312	History of Medieval Philosophy	3
3600:313	History of Modern Philosophy	3

(Of the additional credits, six must be earned in 300/400-level courses.)

• Electives — 45 credits.

3650: Physics

Bachelor of Science

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

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

• Physics:†

A minimum of 40 credits at 200 level or higher, including:‡

3650:291,2	Elementary Classical Physics I and II	8
3650:301	Elementary Modern Physics	3
3650:322,3	Intermediate Laboratory I, II	4
3650:340	Thermal Physics	3
3650:431	Mechanics I	3
3650:436	Electromagnetism I	3
3650:441	Quantum Physics I	3
Highly recommended courses for all students:		
3650:432	Mechanics II	3
3650:437	Electromagnetism II	3
3650:442	Quantum Physics II	3
3650:451,2	Advanced Laboratory I, II	4
3650:481,2	Methods of Mathematical Physics I, II	6
	Physics electives	13

• Mathematics:

3450:235	Differential Equations	3
3450:221,2,3	Analytic Geometry-Calculus I, II and III	12

• Chemistry:

3150:132,3	Principles of Chemistry I, II	7
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• Computer Science:

4100:206	FORTRAN (Science and Engineering)	2
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• Electives — 20 credits.

Bachelor of Arts

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

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

• Physics:

A minimum of 24 credits including:‡‡

3650:291,2	Elementary Classical Physics I and II	8
3650:310	Electronics	3
3650:322	Intermediate Laboratory I	2
	Physics Electives	11

• Mathematics

3450:221,2,3	Analytic Geometry-Calculus I, II and III	12
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• 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
3650:438	Methods of Applied Physics	3
4200:305	Materials Science	2
4300:202	Introduction to Mechanics of Solids	3
4400:231,2	Circuits I, II	6
4400:333,4	Circuits III, IV	6
4600:125	Engineering Graphics	2
4600:310	Fluid Mechanics	3

Biophysics

(Bachelor of Science or Bachelor of Arts degree)

A suggested program of 27 credits to include the following:

3100:111,2	Principles of Biology	8
3100:211	General Genetics	3
3100:214	Organic Evolution	3
3100:311	Cell Biology	2
3100:480	Radiation Biology	3
3150:263,4	Organic Chemistry	6

Chemical Physics

(Bachelor of Arts or Bachelor of Science degree)

A suggested program of 20 credits to include the following:

3150:263,4	Organic Chemistry	6
3150:313,4	Physical Chemistry Lecture I, II	6
3150:315,6	Physical Chemistry Laboratory I, II	4
3650:471	NMR Spectroscopy I	2

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

‡Only one of the introductory sequences 291,2 or 261,2 is applicable toward the required 40 credits. Courses 1100:224, 3650:130, 133, 137, 138, 141 and 160 are not applicable toward the required 40 credits of physics courses without special permission.

‡‡Courses 1100:24, 3650:130, 133, 137, 138, 141 and 160 are not applicable toward the required 24 credits of physics courses without special permission.

Computer Physics

(Bachelor of Science degree recommended)

A suggested program of 21 credits to include the following:

4400:231,2	Circuits I, II	6
4400:333,4	Circuits III, IV	6
4450:306	Assembler Programming	3
4450:407	Systems Programming	3
4450:410	Computer Methods	3

Geophysics

(Bachelor of Science or Bachelor of Arts degree)

A suggested program of 18 credits to include the following:

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

Polymer Physics

(Bachelor of Science degree recommended)

A suggested program of 24 credits to include the following:

3150:263,4	Organic Chemistry	6
3150:313,4	Physical Chemistry Lecture I, II	6
9871:401	Introduction to Elastomers	2
9871:402	Introduction to Plastics	2
9871:411,2,3	Molecular Structure and Physical Properties of Polymers I, II, III	7

Physics/Astrophysics/Astronomy Pre-Graduate School

(Bachelor of Science degree recommended)

A suggested program of 34 credits to include the following:

3650:321	Physics Laboratory Techniques	2
3650:331,2	Astrophysics I, II	6
3650:404	Energy and the Environment	3
3650:320	Optics	3
3650:432	Mechanics II	3
3650:437	Electromagnetism II	3
3650:438	Methods of Applied Physics	3
3650:481,2	Methods of Mathematical Physics I, II	6
3650:399	Undergraduate Research	1-6

The preceding requirements specify the minimum curriculum for the B.S. and B.A. 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**Statement of Policies - Admission**

For students enrolled at The University of Akron and for students wishing to transfer directly to Buchtel College of Arts and Sciences from other institutions, the following criteria must be satisfied for admission to the Department of Political Science:

- The student must be admissible to Buchtel College of Arts and Sciences.
- A minimum grade point average of 2.20 must be met in all university work, including transfer credits.
- A minimum grade point average of 2.20 must be met in all work in Political Science, including transfer credits.

Only credits earned at an accredited institution of postsecondary education, as recognized by The University of Akron, will be considered for transfer credit, and only those grades will be considered in the grade point average.

Retention

Students in the Political Science programs must maintain a minimum grade point average of 2.20 overall and a minimum of 2.20 grade point average in Political Science courses in order to remain in the program. A student who fails to maintain the 2.20 cumulative average will be placed on academic probation. Failure to raise the average after one semester or one 10 week summer session will result in dismissal from the program. The student may not apply for readmission for at least one semester.

The department will limit the student's ability to withdraw from a course to the first eight weeks of the semester. No course may be repeated for a grade change more than once.

Graduation

A Political Science major must earn a cumulative 2.20 grade point average in Political Science and overall to graduate with such a declared major.

Grades of C- or below obtained in any course at other institutions will not apply toward a Political Science degree at The University of Akron.

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	4
3700:201	Introduction to Political Research	3
3700:300	Comparative Politics	4
3700:303	Introduction to Political Thought	3
3700:310	International Politics and Institutions	4

- An upper division American politics course from among the following:

3700:341	American Congress	3
3700:350	American Presidency	3
3700:360	Judicial Process	3
3700:402	Politics and the Media	3
3700:472	American Interest Groups	3
3700:473	American Political Parties	3

- Political Science Electives

Electives must include two 400-level courses (may include 400-level course used to meet the American politics requirement.)

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

- Completion of all requirements for the associate degree in criminal justice technology established by the Community and Technical College.
- Completion of General Studies requirements.
- Completion of 47 credits of 300/400-level courses.

- At least six credits of course work which will introduce the student to a foreign culture. Such courses shall be selected by the student with the approval of the adviser in the Department of Political Science. Courses may be chosen from any of the following departments: modern languages, history, political science, anthropology and geography.

- At least 30 departmental credits including:

3700:100	Government and Politics in the United States	4
3700:201	Introduction to Political Research	3
3700:361	Politics of the Criminal Justice System	3
3700:370	Public Administration: Concepts and Practices	4
3700:380	Urban Politics and Policies	4
3700:395	Internship in Government and Politics	2-3

or		
3000:301	Cooperative Education	0
3700:462	The Supreme Court and Civil Liberties	3
3700:480	Policy Problems: Criminal Justice	3

- One upper division American politics course from among the following:

3700:341	The American Congress	3
3700:350	The American Presidency	3
3700:360	The Judicial Process	3
3700:402	Politics and the Media	3
3700:472	American Interest Groups	3
3700:473	American Political Parties	3

**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	4
3700:201	Introduction to Political Research	3
3700:301	Advanced Political Research	3
3700:370	Public Administration: Concepts and Practices	4
3700:395	Internship: Government and Politics	3
or		
Co-op Collegewide Level		0
3700:441	Policy Process	3
3700:442	Methods of Policy Analysis	3
3700:480	Policy Problems	3

The student will take an additional nine credits in the political science department.

• Statistics:			
3470:260	Basic Statistics		3
• Computer Science:			
3460:126	Introduction to Basic Programming		2
• Accounting:			
6200:201	Accounting I		4
6200:470	Governmental and Institutional Accounting		3
• Economics:			
3250:202	Principles of Microeconomics		3
3250:405	Public Finance		3
• Psychology:			
3750:100	Introduction to Psychology		3
• Management:			
6500:301	Management: Principles and Concepts		3
6500:323	Computer Applications for Business		3
6500:324	Data Management for Information Systems		3
6500:341	Personnel Management		3
	Electives at the 300/400 level		10

Special Curricular Tracks in Political Science

The department offers three special tracks for the student interested in pre-law, the international service or national, state or local government service. In addition to the requirements for the major, each of these tracks includes electives appropriate for preparation for careers in law, government service or international service.

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

3750: Psychology

Bachelor of Arts

Pregraduate School

- This option is intended for students who intend to pursue graduate studies in psychology or related fields.
- The general studies and the second year of foreign language.
- At least 40 credits in psychology including:

3750:100	Introduction to Psychology	3
3750:105	Professional and Career Issues in Psychology	1
3750:110	Quantitative Methods in Psychology	4
3750:220	Introduction to Experimental Psychology	4
3750:320	Biopsychology	4
3750:335	Dynamics of Personality	4
3750:340	Social Psychology	4
3750:345	Cognitive Processes	4
	Psychology Electives	12
- Electives 35

Human Services and Human Resources

- This option is intended for students who intend to train for psychology technician positions in human services (counseling or developmental psychology) or human resources (personnel)
- The General Studies and the second year of a foreign language or a similar level of proficiency in American Sign Language.
- At least 40 credits in the department including:

3750:100	Introduction to Psychology	3
3750:105	Professional and Career Issues in Psychology	1
3750:110	Quantitative Method in Psychology	4
3750:220	Introduction to Experimental Psychology	4
3750:230	Developmental Psychology	4
	or	
3750:240	Industrial Organizational Psychology	4
3750:335	Dynamics of Personality	4
	or	
3750:340	Social Psychology	4
3750:410	Psychological Tests and Measurements	4
3750:495	Field Experience in Psychology	4
	Psychology Specialty Courses**	12
- Electives 35

**Approved by adviser

3850: Sociology

(3850: Sociology; Sociology/Law Enforcement; Sociology/Corrections; 3870: Anthropology)

Bachelor of Arts in Sociology

- The General Studies and the second year of a foreign language.
- A minimum of 30 credits in sociology including:

3850:100	Introduction to Sociology	4
3850:301,2	Methods of Social Research I and II	6
3850:403	History of Sociological Thought	3
3850:404	Contemporary Sociological Theories	3
	Sociology Electives	14
	(3870:150 Cultural Anthropology can be counted as part of these credits)	
- Electives

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

Bachelor of Arts in Sociology/Anthropology

- The General Studies and the second year of a foreign language.
- Minimum of 35 credits in the department to include:

3850:100	Introduction to Sociology	4
3850:302	Methods of Social Research II	3
3850:403	History of Sociological Thought	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
3870:405	History and Theory in Anthropology	3
- A minimum of nine additional credits to be selected from the following courses:

3870:270	Cultures of the World	3
3870:355	Indians of South America	3
3870:357	Magic, Myth and Religion	3
3870:358	Indians of North America	3
3870:397	Anthropological Research	3
3870:455	Culture and Personality	3
3870:457	Culture and Medicine	3
3870:463	Social Anthropology	3
3870:472	Special Topics: Anthropolgy	3
- Electives

Bachelor of Arts in Sociology/Law Enforcement

- The General Studies and the second year of foreign language.
- A minimum of 33 credits in the department including:

3850:100	Introduction to Sociology	4
3850:301,2	Methods of Social Research I, II	6
3850:320	Social Inequality	3
3850:330	Criminology	3
3850:403	History of Sociological Thought	3
3850:404	Contemporary Sociological Theories	3
3850:430	Juvenile Delinquency	3
3850:433	Sociology of Deviant Behavior	3
3850:441	Sociology of Law	3
3850:495	Research Internship	2
- Electives

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

Bachelor of Arts in 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
3850:301,2	Methods of Social Research I, II	6
3850:315	Sociological Social Psychology	3
	or	
3850:411	Social Interaction	3
	or	
3850:412	Socialization: Child-Adult	3
3850:330	Criminology	3
3850:403	History of Sociological Thought	3
3850:404	Contemporary Sociological Theories	3
3850:429	Probation and Parole	3
3850:430	Juvenile Delinquency	3
3850:431	Corrections	3
3850:495	Research Internship	2
- Electives

**Certification for Teaching Music
 in the Elementary School**

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

7500:497	Independent Study (Music Student Teaching)	2
7500:107	Class Voice	2
	or	
7520:124	Applied Voice	2
7500:151,2	Music Theory I and II	6
7500:154,5	Music Literature I and II	4
7500:261	Keyboard Harmony I	2
7500:340	General Music	3
7500:341	Wind- Percussion Instrument Techniques	3
7500:356	Music: Teaching Handicapped	2
	or	
7500:110	Class Guitar	2
7500:497	Independent Study	2
7510:—	Music Organization	2

**Dual Certification Program
 Elementary and Secondary**

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

A student in this program must meet the requirements for elementary education; must complete 5300:310, Principles of Secondary Education, and 5300:311, Instructional Techniques in Secondary Schools; and must meet the requirements in the field or fields of teaching at the secondary level in which certification is requested. For advisement in this area, contact the head of the department.*

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

Reminder: All students pursuing teacher education programs at The University of Akron are subject to the selective admission and retention requirements. Criteria and procedures are available in the Office of Academic Services, Zook Hall, The University of Akron, Akron, OH 44325, phone (216) 375-7681.

5630: Bilingual Multicultural Education

This program provides education majors with the knowledge, skills and attitudes necessary to teach bilingual students. The program incorporates course work in the history and philosophy of bilingual multicultural education, linguistics, English as a second language instruction, culture and theories and practices for teaching bilingual students language arts, reading, mathematics, social studies and science. Students may become validated in bilingual multicultural education at either the undergraduate or graduate levels in conjunction with certification in elementary education, secondary education, special education or physical education. Students must demonstrate proficiency in English and a language other than English in order to meet the validation requirements of the Ohio State Department of Education.

Credits

• Requirements:		
3300:489	Seminar in English: Introduction to Bilingual Linguistics	3
5630:482	Characteristics of Culturally Different Youth	3
5630:484	Principles of Bilingual Multicultural Education	3
5630:485	Teaching Reading and Language Arts to Bilingual Students	4
	or	
5630:486	Teaching Mathematics, Social Studies and Science to Bilingual Students	4
5630:487	Techniques for Teaching English as a Second Language in the Bilingual Classroom	4
	Field experience of bilingual classrooms/settings	3

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 field with a 2.5 grade-point average, both overall and in the teaching field(s), before transferring to the upper college and must have at least a "C" grade

in English composition or its equivalent. A student must have a minimum of a 2.5 grade-point average in the declared teaching fields to be eligible for placement for student teaching.

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

- General Studies — 39 credits
- Professional courses (courses to be taken in an approved sequence):

5100:150	Introduction to Professional Education	3
5100:250	Human Development and Learning	3
5100:310	Educational Media and Technology	3
5100:350	Educational Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:210	Principles of Teaching in the Secondary School	3
5300:275	Exploratory Experience	1
5300:311	Instructional Techniques Secondary Education	4
5300:325	Content Reading in Secondary School	3
5300:375	Exploratory Experience	1
5300:445	Microcomputer Literacy for Secondary Teachers	2
5300:485	Classroom Dynamics	2
5300:495	Student Teaching	8
- Courses in teaching field(s) and electives as determined by the department.

Teaching Fields

Each student preparing for secondary school teaching must have at least two defined teaching fields. However, if a student chooses one of the comprehensive or special teaching fields, as listed below, preparation in a second field will not be required. Students admitted to the University after July 1987 will be required to follow a new certification program for each subject field and meet all new state requirements.

Minimum Number of Credits Required for Approval in Various Teaching Fields

Comprehensive Subjects by Field

Business Education (with shorthand)	62-65
Business Education (without shorthand)	62-65
Communications	60
Family Life Education	
Marketing Education	60-65
Consumer Homemaking and Multi-Area Vocational Science—Physical Science	55
Social Studies	85-87
Vocational Business Education	60
Vocational Consumer Home Economics*	62-70
Vocational Consumer Home Economics w/ Multi-Area Job Training*	56
	63

Special Fields K-12

Dance	45
Foreign Language	45
Health — as determined by Department of Health and Physical Education	45
Library/Media	
Music — as determined by Department of Music	
Physical Education (men and women) — As determined by Department of Health and Physical Education	47
Speech and Hearing Therapy — as determined by Department of Communicative Disorders	Graduate
Special Education — as determined by Department of Counseling and Special Education	57-71
Visual Arts	69-71

Specific Subjects by Field

	Credits
Biology	51-55
Bookkeeping Basic Business	30-33
Chemistry	55-57
Computer Science	39
Drama/Theatre	30
Earth Science	51-54
Economics	30
English	38
Foreign Languages	45
General Science	44-47
Geography	30

*Home Economics and Family Ecology majors.

**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.

*Options are also available in Job Training for the fields of Food Service, Fabrics, Child Care, and Health and Community.

Health Education (7-12)	48
History	32
Home Economics	45
Library/Media	30
Mathematics	33-34
Physics	55-58
Political Science	31
Psychology/Sociology	36-37
Sales Communication	31
Speech/Communications	30
Stenography and Typewriting/Keyboarding	33
Visual Art	36

5400: Technical Education

The undergraduate program in technical education is designed to prepare instructors and other personnel for post-secondary educational institutions, industry and public and private agencies engaged in the education and training of technicians. The program is divided into the following major classifications: business technologies, engineering technologies, health technologies, natural science technologies and public service technologies. The baccalaureate program is intended to produce instructors primarily for teaching subjects within a technical specialty. Graduates of this program would be awarded the degree of Bachelor of Science in Technical Education.

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

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

Requirements for Graduation

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

Reminder: All students pursuing teacher education programs at The University of Akron are subject to the selective admission and retention requirements. Criteria and procedures are available in the Office of Academic Services, Zook Hall, The University of Akron, Akron, OH 44325, phone (216) 972-7681.

5550: Physical Education

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

Undergraduate programs in the Department of Physical and Health Education lead to state certification in health and physical education (7-12 and K-12). There is also a school nurse certification program, as well as one in dance. State validation is also available in adapted physical education.

Certificate programs are offered in athletic training for sports medicine, outdoor education, and athletic coaching. In addition to public school employment, graduates may be prepared for employment in various recreation professions, business and industry fitness centers, and numerous allied health and exercise professions.

Physical Education

Provisional Special Certification (K-12)

3100:206 or 208	Human Anatomy and Physiology	4
3100:207 or 209	Human Anatomy and Physiology	4
• At least two of the following:		
5550:101	Fundamentals of Archery/Bowling	1
5550:102	Fundamentals of Badminton/Volleyball	1
5550:103	Fundamentals of Soccer/Field Hockey	1
5550:104	Fundamentals of Track and Field	1
5550:105	Recreational Activities	1
5550:106	Recreational Activities for the Handicapped	1
5550:115	Fundamentals of Wrestling/Rugby	1
5550:120	Fundamentals of Basketball	1
• Required Core Courses		
5550:130	Physical Education Activities for Elementary School	2
5550:140	Physical Education Activities I	3
5550:141	Physical Education Activities II	3
5550:193	Methods of Teaching Physical Education	3
5550:201	Kinesiology	2
5550:202	Physiology of Exercise	3
5550:211	First Aid	2

5550:245	Instructional Techniques in Elementary Physical Education	2
5550:246	Instructional Techniques in Secondary Physical Education	2
5550:335	Movement Experiences for the Elementary Grades	2
5550:340	Care and Prevention of Athletic Injuries	3
5550:345	Adapted Physical Education	3
5550:350	Organization and Administration of Health and Physical Education	2
5550:454	Resident Outdoor Education	2
• Choose at least two of the following:		
5550:310	Theory and Techniques of Soccer	1
5550:311	Theory and Techniques of Track and Field	1
5550:312	Theory and Techniques of Basketball	1
5550:313	Theory and Techniques of Baseball/Softball	1
5550:314	Theory and Techniques of Swimming	2
5550:315	Theory and Techniques of Tumbling and Gymnastics	1
5550:320	Theory and Techniques of Volleyball	1
5550:325	Theory and Techniques of Football	1
5550:326	Theory and Techniques of Wrestling	1
	Electives, with consent of adviser	2
Total minimum credits		47

Secondary School (7-12) Certification (minimum 34 credits)

Courses required for secondary certification include all of the requirements for Provisional Special (K-12) Certification (listed above) except: 5550:130, 245, 335, 345, and 5560:454.

5570: Health Education

Provisional Special Certification (K-12)

3100:130	Principles of Microbiology	3
3100:206 or 208	Human Anatomy and Physiology	4
3100:207 or 209	Human Anatomy and Physiology	4
3850:100	Introduction to Sociology	4
5550:202	Physiology of Exercise	3
5550:211	First Aid	2
5570:101	Personal Health	2
5570:200	Current Topics in Health Education	3
5570:201	Consumer Health, Weight Control and Exercise	3
5570:202	Stress, Life-Style and Your Health	3
5570:320	Community Hygiene	2
5570:321	Organization and Administration of School Health and School Health Services	4
5570:322	Methods and Materials of Elementary School Health Education	2
5570:323	Methods and Materials of Secondary School Health Education	2
5570:395	Field Experience in Health Education	1-3
5570:400	Environmental Aspects of Health Education	3
5570:460	Practicum in Health Education	2
5570:497	Independent Study in Health Education	1-2
• Electives (at least 5 credits, with consent of adviser)		5
Total minimum credits		53

Secondary Health Education (7-12) (48 credits)

Courses required for certification in secondary school health education include all of the requirements for Provisional Special (K-12) Certification in Health Education (listed above) except: 5570:322, 460, and 497.

School Nurse Certification**

The provisional school nurse's certificate will be issued to the holder of a bachelor's degree from an approved college or university, provided the pattern of preparation leading to the degree conforms to the following requirements:

Coursework well distributed over the following areas:

- Community health and family counseling
 - Mental and emotional health
 - The school in relation to society
 - The learner and the learning process
 - The school health program
 - School health services and environment
 - Principles, organization, and administration of school health services
 - A supervised school nurse experience in an approved school setting to approximate the school day for a period not less than one full semester.
- | | | |
|----------|---|---|
| 5570:320 | Community Hygiene | 2 |
| 7400:201 | Relational Patterns in Marriage and Family | 3 |
| 5570:101 | Personal Health | 2 |
| | or | |
| 5570:202 | Stress, Life Style and Your Health | 3 |
| 5100:150 | Introduction to Professional Education | 3 |
| 5100:250 | Human Development and Learning | 3 |
| 5570:321 | Organization and Administration of School Health and School Health Services | 4 |

*Certification through the State of Ohio.

**Certification through department or the University.

**The applicant for any school nurse certificate shall be a holder of a current license to practice as a Registered Nurse in the State of Ohio.

Certification in Dance (K-12)

General Studies

Professional Education

3750:100	Introduction to Psychology	3
5100:150	Introduction to Professional Education	3
5100:250	Human Development of Learning	3
5100:310	Educational Media and Technology	3
5100:350	Educational Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:210	Principles of Teaching in the Secondary School taken simultaneously with	3
5300:275	Exploratory Experiences in Secondary Education	1
5300:325	Content Reading in Secondary Schools	3
5550:403	Student Teaching Seminar	1
5550:495	Student Teaching	4-8

Dance

7900:115	Dance as an Art Form	2
7900:116	Dance Analysis I	2
7900:117	Dance Analysis II	2
7900:122	Ballet Technique I (twice) (Placement by audition; may have to take remedial coursework in introduction to Ballet I, II or Fundamental Ballet Technique.)	10
7900:229	Contemporary Technique I (twice) (Placement by audition; may have to take remedial coursework in introduction to Contemporary Dance I, II, or III)	6
7900:316	Choreography I	2
7900:317	Choreography II	2
7900:320	Dance Notation	2
7900:323	Jazz Dance Technique I	2
7900:423	History of the Dance or	2
7900:424	20th Century Dance or	2
7900:425	Development of Dance	2
7900:426	Techniques of Teaching Dance I	2
7900:427	Techniques of Teaching Dance II Dance Organizations (one credit each section; total of 4 credits required)	4
7910:101	Classical Ballet Ensemble	2
7910:102	Character Ballet Ensemble	2
7910:103	Contemporary Dance Ensemble	2
7910:104	Jazz Dance Ensemble	2
7910:105	Musical Comedy Ensemble	2
7910:106	Opera Dance Ensemble	2
7910:107	Experimental Dance Ensemble	2
7910:108	Choreographer's Workshop	2
7910:109	Ethnic Dance Ensemble	2
7910:110	Period Dance Ensemble	2
7910:111	Touring Ensemble	2
Dance Electives (5 credits minimum; more preferred)		
7900:329	Contemporary Technique II	3
7900:377	Jazz Dance Technique II	2
7900:424	Tap Technique I	2
5550:211	First Aid	2
5550:334	Games and Rhythms, Elementary Grades	2
5550:335	Movement Experiences for Elementary Grades	2
5550:340	Care and Prevention of Athletic Injuries Approved workshops and independent study; see department head	3
Total minimum		45

Adapted Physical Education (Validation)

A validation of an existing Ohio Standard Physical Education certificate may be granted upon successful completion of the following courses:

5550:395	Field Experience	2
5550:436	Adapted Physical Education Tasks for the Learning Disabled Child	2
5550:450	Assessment and Evaluation in Adapted Physical Education	3
5550:455	Motor Development of Special Populations	3
5550:497	Independent Study	2
5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:465	Neuromotor Aspects of Physical Disabilities	3
5610:467	Classroom Behavior Management of Exceptional Individuals	3
Total credits		21

Athletic Training for Sports Medicine (56-62 credits)

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 compile at least 1,500 hours of practical field and clinical experiences.

3100:130	Principles of Microbiology	3
3100:206 or 208	Human Anatomy and Physiology	4
3100:207 or 209	Human Anatomy and Physiology	4
3100:129	Introduction to General, Organic and Biochemistry I	4
3100:130	Introduction to General, Organic and Biochemistry II	4
5550:150	Concepts in Health and Fitness	3
5550:201	Kinesiology	2
5550:202	Physiology of Exercise	3
5550:211	First Aid	2
5550:340	Care and Prevention of Athletic Injuries	3
5550:345	Adapted Physical Education	2
5550:350	Organization and Administration of Health and Physical Education	3
5550:395	Field Experience	1-3
5550:441	Advanced Athletic Injury Management	4
5550:442	Therapeutic Modalities and Equipment in Sports Medicine	3

5550:460	Practicum in Physical Education	3-6
5550:475	Seminar in Health and Physical Education	3
5550:497	Independent Study	1-2
5570:202	Stress, Life Style and Your Health	3
7400:133	Nutrition Fundamentals	3

• Electives, with consent of adviser

Total minimum credits 56

Outdoor Education

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

1830:201	Man and the Environment	2
1830:401	Seminar in Environmental Studies	2
5560:450	Outdoor Education: Curriculum Application	4
5560:452	Outdoor Education: Methods and Materials	3
5560:454	Resident Outdoor Education	2
5560:456	Outdoor Pursuits	4
5560:460	Practicum in Outdoor Education	2
5560:497	Independent Study	1-2

Reminder: All students pursuing teacher education programs at The University of Akron are subject to the selective admission and retention requirements. Criteria and procedures are available in the Office of Academic Services, Zook Hall, The University of Akron, Akron, OH 44325, phone (216) 972-7681.

5610: Special Education

This program involves in-depth preparation in the areas of developmentally handicapped, specific learning disabilities, orthopedically handicapped, severe behavior handicapped and multihandicapped. The program incorporates courses from secondary education, elementary education, health and physical education, foundation and communicative disorders. All special education training programs lead to independent certification K-12.

Developmentally Handicapped

• General Education:

1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:111	English Composition	4
1100:112	English Composition	4
1100:115	Institutions in the United States	3
1100:116	Institutions in the United States	3
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:33x	World Civilizations	2
1100:33x	World Civilizations	2
1100:xxx	Physical Education	1
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
3450:xxx	Math (for options see adviser)	3

• 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 Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:210	Principles of Teaching in the Secondary School	3
5610:201	Student Participation: Developmentally Handicapped	1
5610:403	Senior Seminar: Special Education	2
5610:480	Student Teaching: Developmentally Handicapped	14

• Curriculum Content:

5200:321	Art for the Grades or	2
5200:365	Comprehensive Musicianship for Elementary Classroom Teachers	3
5200:335	Teaching the Language Arts	4
5200:336	Teaching of Elementary School Mathematics	3
5200:337	Teaching of Reading	3
5550:211	First Aid	2
5550:345	Adapted Physical Education	2
5610:459	Communication and Consultation with Parents and Professionals	3
5610:461	Technology and Materials in Special Education	3
5610:463	Assessment in Special Education	3
7700:430	Aspects of Normal Language Development	3

• Specialization:

5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:441	Developmental Characteristics of the Mentally Retarded	4
5610:450	Special Education Programming: Early Childhood	3
5610:451	Special Education Programming: Elementary Level	3
5610:452	Special Education Programming: Secondary/Vocational	3
5610:467	Classroom Behavior Management	3
5610:470	Clinical Practicum in Special Education	3

• Choose six hours of electives

6

Specific Learning Disabled

• General Education:

1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:111	English Composition	4
1100:112	English Composition	4
1100:115	Institutions in the United States	3
1100:116	Institutions in the United States	3
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:33x	World Civilizations	2
1100:33x	World Civilizations	2
1100:xxx	Physical Education	1
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
3450:xxx	Math (for options see adviser)	3

• 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 Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:210	Principles of Teaching in the Secondary School	3
5610:202	Student Participation: Specific Learning Disorders	1
5610:403	Senior Seminar: Special Education	2
5610:481	Student Teaching: Specific Learning Disorders	14

• Curriculum Content:

5200:321	Art for the Grades or	2
5200:365	Comprehensive Musicianship for Elementary Classroom Teachers	3
5200:335	Teaching the Language Arts	4
5200:336	Teaching of Elementary School Mathematics	3
5200:337	Teaching of Reading	3
5550:211	First Aid	2
5550:345	Adapted Physical Education	2
5610:459	Communication and Consultation with Parents and Professionals	3
5610:461	Technology and Materials in Special Education	3
5610:463	Assessment in Special Education	3
7700:430	Aspects of Normal Language Development	3

• Specialization:

5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:443	Developmental Characteristics of the Specific Learning Disabled	3
5610:450	Special Education Programming: Early Childhood	3
5610:451	Special Education Programming: Elementary Level	3
5610:452	Special Education Programming: Secondary/Vocational	3
5610:467	Classroom Behavior Management	3
5610:470	Clinical Practicum in Special Education	3

• Choose six hours of electives

6

5610:461	Technology and Materials in Special Education	3
5610:463	Assessment in Special Education	3
5610:467	Classroom Behavior Management	3
5610:470	Clinical Practicum in Special Education	3
7700:430	Aspects of Normal Language Development	3
7700:485	Communicative Disorders in the Developmentally Disabled	4

• Specialization:

5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:445	Developmental Characteristics of the Orthopedically Handicapped	3
5610:457	Special Education Programming: Orthopedically Handicapped	3
5610:458	Interdisciplinary Programming in Special Education	3
5610:465	Neuromotor Aspects of Physical Disabilities	3

• Take two of the following three courses:

5610:450*	Special Education Programming: Early Childhood	3
5610:451*	Special Education Programming: Elementary Level	3
5610:452*	Special Education Programming: Secondary/Vocational	3

Severe Behavior Handicapped

• General Education:

1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:111	English Composition	4
1100:112	English Composition	4
1100:115	Institutions in the United States	3
1100:116	Institutions in the United States	3
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:33x	Eastern Civilizations	2
1100:33x	Eastern Civilizations	2
1100:xxx	Physical Education	1
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
3450:xxx	Math (for options see adviser)	3

• 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 Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:210	Principles of Teaching in the Secondary School	3
5610:204	Student Participation: Severe Behavior Handicapped	1
5610:403	Senior Seminar: Special Education	2
5610:483	Student Teaching: Severe Behavior Handicapped	14

• Curriculum Content:

5200:321	Art for the Grades or	2
5200:365	Comprehensive Musicianship for Elementary Classroom Teachers	3
5200:335	Teaching the Language Arts	4
5200:336	Teaching of Elementary School Mathematics	3
5200:337	Teaching of Reading	3
5550:211	First Aid	2
5550:345	Adapted Physical Education	2
5610:459	Communication and Consultation with Parents and Professionals	3

5610:461	Technology and Materials in Special Education	3
5610:463	Assessment in Special Education	3
5610:467	Classroom Behavior Management	3
7700:430	Aspects of Normal Language Development	3

• Specialization:

5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:446	Developmental Characteristics of Severe Behavior Handicapped	3
5610:450	Special Education Programming: Early Childhood	3
5610:451	Special Education Programming: Elementary Level	3
5610:452	Special Education Programming: Secondary/Vocational	3
5610:456	Special Education Programming: Severe Behavior Handicapped	3
5610:470	Clinical Practicum in Special Education	3

• Electives: Select 2-4 credits of electives from a restricted list (see adviser).

Multihandicapped

• General Education:

1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:111	English Composition	4
1100:112	English Composition	4
1100:115	Institutions in the United States	3
1100:116	Institutions in the United States	3
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:33x	Eastern Civilizations	2
1100:33x	Eastern Civilizations	2
1100:xxx	Physical Education	1
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
3450:xxx	Math (for options see adviser)	3

*Select two of three with consultation from adviser.

- 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 Measurement and Evaluation	2
5100:450	Problems in Education	2
5300:210	Principles of Teaching in the Secondary School	3
5610:205	Student Participation: Multihandicapped	1
5610:403	Senior Seminar: Special Education	2
5610:484	Student Teaching: Multihandicapped	14
- Curriculum Content:

5200:321	Art for the Grades	2
	or	
5200:365	Comprehensive Musicianship for the Elementary Classroom Teacher	3
5200:337	Teaching of Reading	3
5550:211	First Aid	2
5550:345	Adapted Physical Education	2
5610:459	Communication and Consultation with Parents and Professionals	3
5610:461	Technology and Materials in Special Education	3
5610:463	Assessment in Special Education	3
5610:467	Classroom Behavior Management	3
5610:470	Clinical Practicum in Special Education	3
7700:271	Language of Signs I	3
7700:430	Aspects of Normal Language Development	3
7700:485	Communicative Disorders in the Developmentally Disabled	4
- Specialization:

5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:441	Developmental Characteristics of the Mentally Retarded	4
5610:454	Special Education Programming: Multihandicapped	4
5610:458	Interdisciplinary Programming in Special Education	3
5610:465	Neuromotor Aspects of Physical Disabilities	3
- Take one of the following two courses:

5610:450	Special Education Programming: Early Childhood	3
5610:452	Special Education Programming: Secondary/Vocational	3

Combination Special Education-Elementary Education Program

The addition of 50-68 special education credits, including student teaching, to the standard elementary education degree program will provide the student with certification in the areas of teaching the developmentally handicapped, specific learning disabled, orthopedically handicapped, severe behavior handicapped or multihandicapped. Selection of this option will require an extended program or post-baccalaureate study.

Special Education as a Secondary Teaching Field

The addition of 57-71 special education credits, including student teaching, to the professional education courses required of secondary teachers may comprise a second teaching field in developmentally handicapped, specific learning disabled, orthopedically handicapped, severe behavior handicapped or multihandicapped.

Specific details for the above programs with elementary or secondary can be obtained from the Department of Counseling and Special Education.

Speech and Hearing Therapy

Certification in the area of speech and hearing therapy is available to students only as part of a master's degree. Specific program details can be obtained from the Department of Counseling and Special Education and/or the Department of Communicative Disorders. The following are the professional education certification requirements:

3750:100	Introduction to Psychology	3
3750:110	Quantitative Methods in Psychology	3
5100:150	Introduction to Professional Education	3
5100:250	Human Development and Learning	3
5100:450	Problems in Education	2
5610:440	Developmental Characteristics of Exceptional Individuals	3
	or	
5610:443	Developmental Characteristics of Learning Disabled Individuals	3
7700:461	Organization and Administration of Public School Speech and Hearing Programs	2
	Student Teaching: Speech	8
	Student Teaching Seminar: Special Education	1

All students pursuing teacher education programs at The University of Akron are subject to the selective admission and retention requirements. Criteria and procedures are available in the Office of Academic Services, Zook Hall, The University of Akron, Akron, OH 44325, phone (216) 972-7681.

College of Business Administration

Russell J. Petersen, Ph.D., *Dean*
 Kenneth E. Mast, D.B.A., *Associate Dean*
 E. Lee Wilson, M.B.A./C.M.A., *Assistant to the Dean*

OBJECTIVES

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

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

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

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

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

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

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

COLLEGE REQUIREMENTS

Requirements for Admission

The college will accept students who have completed at least 45 semester hours of credit, who possess the necessary ability and desire to earn a business administration degree and who meet the academic performance requirements established by the faculty of the college. 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.

Academic Performance Requirements: The following coursework or equivalent must be included in the 45-hour requirement:

- 3450:145 and 3450:215
- a behavioral science course
- 3250:201 or 3250:202
- 6200:201

Enrollment in upper-college business courses is limited to a student who has done the following:

- Applied for transfer to the college.
- Successfully completed at least 60 credits.
- Earned at least a 2.70 overall grade-point average required for acceptance and at least a 2.00 grade-point average in business administration and economics courses.

Unconditional Admission

Students accepted into the University honors program as business majors automatically qualify for unconditional admission. Other students who meet the requirements outlined above and who also possess an overall grade-point average of 2.7 or above at the time of admission will be admitted to the college without submitting a comprehensive application.

Conditional Admission

Students who meet all of the requirements for admission to the College of Business, but who do not possess the 2.7 grade-point average may apply for admission on a conditional basis by submitting a comprehensive application to the office of the Director of Undergraduate Studies. Application forms and procedures may be obtained from the office, located in Room 111 of Leigh Hall. Application deadlines to the College of Business are 60 days prior to the beginning of the semester in which the student intends to begin study in the College of Business. Students admitted under conditional admission rules will normally be provided with academic performance requirements and alternate study programs as conditions for continued study in the College of Business.

Transfer of Courses and Advanced Standing

For courses taken outside of the University College or the College of Business Administration to be accepted as part of an approved program of study in lieu of college and departmental requirements, the courses to be transferred must be of an equivalent level. The College of Business Administration will consider the following in granting credit: the content, complexity and grading standards of courses taken elsewhere and the suitability of courses taken elsewhere for the program of study chosen here. A grade of at least "C" must have been earned in pre-business accounting and economics course work for transfer consideration. Subject matter reserved for junior- and senior-level courses in this college will not be transferable through courses taken in any two-year institution. All work transferred may be subject to examination to validate credits.

Degrees and Co-Majors

The College of Business Administration, organized on a departmental basis, offers programs of study in accounting, finance, management, marketing and advertising. A program of study leading to a co-major in international business is also offered. Six baccalaureate degrees are offered: the Bachelor of Science in Accounting, the Bachelor of Science in Business Administration (not currently awarded), the Bachelor of Science in Industrial Management, the Bachelor of Science in Business Administration/Financing, the Bachelor of Science in Business Administration/Marketing, and the Bachelor of Science in Business Administration/Advertising. The comajor in international business is available with each degree program.

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.
- Receive admission to the College of Business Administration and earn at least 15 credits within the college after admission is granted.
- 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:

	<i>Credits</i>
3250:201 Principles of Macroeconomics	3
3250:202 Principles of Microeconomics	3
6200:201,2 Accounting	8
Two sequential courses in psychology or sociology; or two courses chosen from psychology and/or sociology.†	6
3450:145 College Algebra	4
3450:215 Concepts of Calculus	4
The following core program in business administration:	
6200:355 Accounting Information Processing**	3
or	
6500:323 Computer Applications for Business**	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
6500:490 Business Policy	4
6600:300 Marketing Principles	3
6800:305 International Business	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*.

Cooperative Education Program

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

The requirements are as follows:

- Attain college admissions status.
- Complete 3250:210,2 and 6200:201,2 with at least a 2.00 grade-point average.
- Apply for participation in the program through the University's director of Cooperative Education.

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

PROGRAMS OF INSTRUCTION

6200: Accounting

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

The three major fields of employment for accountants are public, private and governmental accounting. Regardless of the 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 school requirements:

	<i>Credits</i>
6200:301 Cost Accounting	3
6200:317 Intermediate Accounting I	4
6200:318 Intermediate Accounting II	4
6200:420 Advanced Accounting	3
6200:430 Taxation I	4
6200:440 Auditing	4
6200:454 Information Systems	3
6200:460 Advanced Managerial Accounting	3

In addition to the required accounting courses listed above, a student may count not more than three additional accounting (6200) credits toward the 128 credits required for the degree Bachelor of Science in Accounting.

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 students be familiar with the institutional setting in which firms operate, and, within this framework, they must understand the present state of financial theory, its uses and limitations. When a student majors in finance, the goal is not a specific entry job but rather a state of readiness to provide flexible response to new areas of opportunities in the financial area.

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

The finance major must complete three *required* major courses with an average grade of C over the three courses:

Core:		<i>Credits</i>
6400:338 Financial Intermediaries		3
6400:343 Investments		3
6400:479 Advanced Business Finance		3

The finance major must also select at least five *elective* courses (three must be 6400 courses) from the following list:

6400:318 Risk Management and Insurance	3
6400:373 Financial Statement Analysis	3
6400:400 Real Estate Principles: A Value Approach	3
6400:401 Real Estate Investment	3
6400:402 Income Property Appraisal	3
6400:403 Real Estate Finance	3
6400:318 Risk Management and Insurance	3
6400:417 Life and Health Insurance	3
6400:419 Property and Liability Insurance	3
6400:432 Personal Financial Planning	3
6400:436 Commercial Bank Management	3
6400:447 Security Analysis	3
6400:475 Commercial and Consumer Credit Management	3
6400:481 International Business Finance	3
6400:497 Honors Only	3
6200:301 Cost Accounting	3
6200:317 Intermediate Accounting I	4
6200:318 Intermediate Accounting II	4
6200:430 Taxation I	4
6200:460 Advanced Managerial Accounting	3

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

6500: Management

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

The emphasis on education for management is the result of several factors. First, managers are becoming increasingly aware that a professional approach

*The prebusiness administration requirements from this group are the General Studies courses in public speaking/oral communications, English, institutions, physical education, natural sciences, and mathematics.

†3870:150 can substitute for 3850:100.

**Accounting majors must take 6200:355. Other majors take 6500:323. Accounting majors may take 6200:321, 2 or 6400:320. Other majors take 6400:320.

†If 6200:317 is selected, the student must complete 318 as a finance major elective. See accounting major for prerequisite for 6200:317 and 318.

to management requires understanding of quantitative methods, the behavioral sciences and the use of computers. Second, the management task is becoming much more complex in terms of the number of activities, volume of work and the broader impact of managerial decisions. Third, the practice of management in any setting requires a measure of specific preparation and qualification.

Events of the past several years have brought about a rapid and sweeping change in the business and industry of our society. The major in industrial management reflects the complex directional problems of firms involved in manufacturing and/or service. The curriculum is designed to provide the student with a solid foundation in management. It also allows the student to emphasize one area of study by pursuing one of the management options.

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

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

6500:331	Production and Systems Management	3
6500:332	Production and Operational Management	3
6500:341	Personnel Management	3
And one of the following:		
6500:471	Management Problems (I)	3
6500:472	Management Problems-Production	3
6500:473	Management Problems-Personnel	3

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

Production Option

6500:433	Business Operational Planning	3
6500:434	Production Planning and Control	3
6500:435	Quality Control	3

Personnel Option

6500:342	Labor Relations	3
6500:442	Compensation Management	3
6500:443	Advanced Personnel Management	3

The B.S. in Industrial Management Personnel Option combined with a Certificate in Gerontology constitutes the Ohio Board of Examiners of Nursing Home Administrators approved course of study in Nursing Home Administration. Application is made through the Institute for Life-Span Development and Gerontology.

Quality Management Option

6500:435	Quality Control	3
6500:436	Advanced Quality Control Applications	3
6500:438	Product Quality Design Techniques	3

Information Systems Management Option

6500:324	Data Management for Information Systems	3
6500:325	Analysis and Design of Information Systems	3
6500:425	Decision Support Systems	3

Materials Management Option

(Joint Program with the Marketing Department)

6600:320	Physical Distribution	3
6600:370	Purchasing	3
6500:434	Production Planning and Control	3
6500:435	Quality Control	3

Industrial Accounting Emphasis

The industrial accounting emphasis, jointly administered by the School of Accountancy and the Department of Management, is designed to benefit the student who may wish to pursue a career in the field of accounting but does not wish to become a CPA. The industrial accounting emphasis is a production option with added emphasis in accounting. The courses selected are those which will furnish the student with a background in the operational management of production activities as well as in the accounting and budgeting procedures utilized in the control of these activities. The curriculum leads to the Bachelor of Science in Industrial Management degree.

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

6200:301	Cost Accounting	3
6200:355	Accounting Information Processing	3
or		
6500:323	Introduction to Computer Applications for Business	3
6200:460	Advanced Managerial Accounting	3
6500:331	Production and Systems Management	3
6500:332	Production and Operational Management	3

6500:341	Personnel Management	3
6500:433	Business Operational Planning	3
6500:434	Production Planning and Control	3
6500:435	Quality Control	3
Recommended electives:		
6200:317	Intermediate Accounting I	4
6200:318	Intermediate Accounting II	4

6600: Marketing

Two distinct degree programs are housed in the Department of Marketing — the Bachelor of Science in Business Administration / Marketing and the Bachelor of Science in Business Administration/Advertising.

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 non-profit organizations. It is also organized to provide the student who has an interest in a specific area of marketing study with alternative approaches to marketing knowledge by means of five specific marketing tracks and one general marketing studies option. The marketing tracks are:

Industrial and Organizational Sales	Marketing Communications
Retail Management	Physical Distribution
International Marketing	

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

To receive a Bachelor of Science in Business Administration/Marketing the student must successfully complete 21 credits in one of the five marketing tracks or the general marketing option as follows:

Industrial and Organizational Sales

Required:		
6600:360	Business Marketing Management	3
6600:370	Purchasing	3
6600:375	Professional Selling	3
6600:380	Sales Management	3
6600:460	Marketing Research	3
6600:475	Industrial and Organizational Sales Strategy	3
Electives:		
6600:310	Buyer Behavior	3
6600:350	Advertising and Marketing Communications	3
6600:390	Management of Marketing Channels	3
6600:440	Product Planning	3

Retail Management Track

Required:		
6600:310	Buyer Behavior	3
6600:340	Principles of Retailing	3
6600:390	Management of Marketing Channels	3
6600:395	Applications in Retail Merchandising	3
6600:400	Strategic Retail Management	3
Electives: (select two)		
6600:350	Advertising and Marketing Communications	3
6600:375	Professional Selling	3
6600:425	Advertising Research and Evaluation	3
6600:460	Marketing Research	3

International Marketing Track

Required:		
6600:385	International Marketing	3
6600:460	Marketing Research	3
6800:405	Multinational Corporations	3
Electives:		
3250:450	Comparative Economic Systems	3
3250:461	Principles of International Economics	3
6600:310	Buyer Behavior	3
6600:465	Forecasting and Quantitative Methods in Marketing	3

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

6600:320	Physical Distribution	3
6600:390	Management of Marketing Channels	3
6600:440	Product Planning	3

A moderate fluency in a foreign language is strongly recommended.

Marketing Communications Track

Required:		
6600:310	Buyer Behavior	3
6600:350	Advertising and Marketing Communications	3
6600:430	Promotional Campaigns	3
6600:460	Marketing Research	3
Electives: (select three)		
6600:340	Principles of Retailing	3
6600:375	Professional Selling	3
6600:380	Sales Management	3
6600:425	Advertising Research and Evaluation	3
6600:440	Product Planning	3

Physical Distribution Track

Required:		
6600:320	Physical Distribution	3
6600:390	Management of Marketing Channels	3
6600:420	Logistics Systems Analysis	3
6600:460	Marketing Research	3
Electives: (select three)		
6600:360	Business Marketing Management	3
6600:370	Purchasing	3
6600:385	International Marketing	3
6600:440	Product Planning	3
6600:465	Forecasting and Quantitative Methods in Marketing	3

General Marketing Studies Option

Any 21 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.

Advertising

Advertising majors can obtain advertising positions with manufacturers, retailers, advertising agencies, advertising specialty houses such as a market research firm or with an advertising vehicle such as a radio station, newspaper or magazine. Some of the more common advertising positions include media buyer, media planner, media supervisor, accounts manager, art director, copywriter and creative director. Advanced career paths in the advertising field would involve management of the above mentioned advertising positions.

This degree shall consist of a minimum of 37 semester credit hours of General Studies courses, 29 semester credit hours of Pre-Business courses, (7 credit hours from General Studies are double counted in Pre-Business), 29 semester credit hours in the College of Business Administration Core, 18 semester credit hours of the Advertising Major Core, 12 semester credit hours from the Advertising Major Electives, plus free electives needed to complete the minimum 128 semester credit hours necessary for graduation from the University.

No more than a total of three independent study credit hours will be counted toward the 12 elective credits required in the 30 hours for the major. Any independent study hours beyond this limit of three shall count only as free electives in the student's overall curriculum.

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

3250:201	Principles of Macroeconomics
3870:150	Cultural Anthropology
	or
3850:100	Introduction to Sociology
	and
6600:310	Buyer Behavior

• Core (18 hours)

6600:350	Advertising and Marketing Communications	3
6600:425	Advertising Research and Evaluation	3
6600:430	Promotional Campaigns	3
7100:180	Fundamentals of Graphic Design	3
7600:405	Media Copywriting	3
7600:280	Media Production Techniques	3

• Electives

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

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

Graphics

7100:286	Commercial Design Theory	3
7100:288	Letterform and Typography	3
7100:387	Advertising Layout Design	3
7100:388	Advertising Production Design	3

Writing

3300:279	Script Writing	3
3300:390	Professional Writing	3
7600:303	Public Relations Writing	3
7600:387	Radio and TV Writing	3
7600:404	Communication in Public Relations II*	3

Media

7600:282	Radio Production	3
7600:283	Television Production	3
7600:309	Promotional Publications	3
7600:384	Mass Media-Communications Research	3

Advertising Management

6600:340	Retail Management	3
6600:360	Retail Marketing Management	3
6600:375	Professional Selling	3
6600:440	Product Planning	3
7600:403	Communication in Public Relations I	3
7600:486	Broadcast Sales and Management	3

General

7600:102	Survey of Mass Communications	3
7600:439	Independent Study: Communications	1-3
	or	
6600:499	Independent Study: Marketing	1-3

6800: International Business

Opportunities in international business are very good, especially after entering an organization through a functional discipline and positioning oneself for promotion from within. The global competitiveness of American enterprises is greatly hindered by the lack of executives capable of mastering international business complexities.

The desirability of an international business major has been pronounced both from businesses and students alike. However, current market conditions suggest that a double or co-major in international business should be completed concurrently with a traditional major in a functional area (accounting, finance, management, marketing).

Thus, in addition to the International Business co-major requirements, the student electing to pursue the international business program must also have: a) 39 credit hours of general studies (by satisfying social science requirements via options), b) 28* credit hours of pre-business studies, c) 29 credit hours of CBA core studies, and d) 18-28 hours of one functional discipline or major. A CBA student must complete a minimum of 128 credit hours. The international business co-major will exceed the minimum 128 credits by as little as one credit, and by as many as 22 credits (assumes satisfaction of the language requirement via completion of 101, 102, 201, 202 or 202 and bypass credits).

The international business co-major will have two basic components: (1) coursework directly related to international business topics (18 credits) and (2) coursework related to an area specialization (3 credits), and language requirement (14 credits), for a total of 35 credit hours. With respect to the first component, the student pursuing a co-major in international business must take:

3250:461	Principles of International Economics	3
6800:405	Multinational Corporations	3
6800:421	International Business Practices	3
6800:460	International Business Research	3

Six credit hours from the following electives:

6400:323	International Business Law	3
6400:481	International Business Finance	3
6500:457	International Management	3
6600:385	International Marketing	3

With respect to the second component, the student must take three credit hours from an area specialization and 14 credit hours as a language requirement. The language requirement must be consistent with the area specialization (example: if the area specialization is Latin America, the language requirement should be Spanish or Portuguese). If the student is already fluent in a foreign language appropriate for an area specialization, this ability will be shown by demonstrating equivalent competence through a test approved by the Department of Modern Languages.

There are three area specializations: Asia, Europe, and Latin America.

*Prerequisite: 7600:403.

For area specialization in Asia, the required course is 3350:360, (3 credits). In the event that an appropriate Asian language is not offered through the Department of Modern Languages of The University of Akron, students with no demonstrated appropriate Asian language proficiency must satisfy the Asian language requirement via some other alternative. Such alternative must be approved by the Department of Modern Languages prior to acceptance of Asia as the student's area of specialization.**

**Students who satisfy the language requirement by successfully completing the 202 (or higher numbered) course of an appropriate language may reduce the actual number of credits taken by 11. Those credits would be accounted for through by-pass credits received from successfully completing 202 (or higher number course). Students who satisfy the foreign language requirement by a test approved by the Department of Modern Languages may reduce the total number of credits needed by 14. In some instances, a course selected to fulfill credits for the co-major may be reduced by a corresponding number of credits. If the student satisfies all course requirements for the functional major and the International Business co-major in less than 128 credits, the difference in credits must be satisfied with free elective credits.

For area specialization in Europe, the required course is 3350:356, (3 credits). For students with no demonstrated language proficiency in French or German, students must complete as a minimum either Beginning and Intermediate French (3250:101, 2 and 201,2; 14 credits) or Beginning and Intermediate German (3530:101, 2 and 201, 2; 14 credits).

For area specialization in Latin America, the required course is 3350:353, (3 credits). For students with no demonstrated appropriate Latin American language skills, students must complete as a minimum Beginning and Intermediate Spanish (3580:101, 2 and 201, 2; 14 credits).

A 2.0 or better grade point average is required in all coursework designated as satisfying the language requirement, including any transfer coursework.

A student pursuing the International Business co-major must satisfy all requirements for admission to the CBA as well as all requirements for graduation including at least a 2.00 grade point average in the requirements for the international business co-major.

College of Fine and Applied Arts

Donald E. Hall, Ph.D., *Acting Dean*
Linda Moore, Ph.D., *Associate Dean*

OBJECTIVES

The purpose of the College of Fine and Applied Arts is to further the objectives of the University by providing a quality program of undergraduate and graduate education with artistic, technological, clinical performance, research and studio experience in the fine and applied arts, as well as:

- To maintain curricula for the preparation of a student majoring in these areas.
- To prepare a student for graduate study and career opportunities on a professional-competence level.
- To provide instruction designed to meet specific curricular needs of all the colleges of the University.
- To serve the elective interests of the student seeking diversity, enrichment in academic programs.
- To encourage the development of technical knowledge and professional skills which underlie the communicative functions of human expression.
- To nurture and expand, through this congregation of the arts, not only a knowledge of 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 2.30 grade-point average or above and have the approval of the dean. A student transferring to the School 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 programs 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. At the time of admission to the college, the student is assigned an adviser by the Director of the School.

Requirements for Baccalaureate Degrees

- Compliance with University requirements, **Section 3** of this *Bulletin*.
- Completion of a major program of instruction (see below).
- 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 may be required 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 Family and Child Development
Bachelor of Arts in Foods and Nutrition
Bachelor of Arts in General Speech
Bachelor of Arts in Mass Media-Communication
Bachelor of Arts in Textiles and Clothing
Bachelor of Arts in Theatre Arts
Bachelor of Arts/Social Work
Bachelor of Fine Arts
Bachelor of Music
Bachelor of Science in Dietetics

Graduation Requirements

A student must earn a major in a school 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."

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

- General studies and completion of a second year of a foreign language or the following courses in American Sign Language — 53 credits:

2210:104	Sign Language, Gesture, and Mime	3
7700:100	Manual Communication I	5
7700:120	Introduction to Audiology/Aural Rehabilitation	3
7700:271	Language of Signs I	3
- Studio art coursework including one course in each of six different areas of emphasis: e.g., printmaking, sculpture — 41 credits.
- *Survey of History of Art I and II* (7100:100,1) plus one additional advanced-level art history course — 11 credits.

History of Art Option

- History of art including one history of art seminar, one special problems in history of art course and one special topics in history of art course. 7100:100,1 *Survey of History of Art* (eight credits) included — 38 credits.
- Studio art course work to include at least four different areas of emphasis: e.g., painting, photography (7100:275 recommended) — 12 credits.

Bachelor of Fine Arts

- General Studies — 39 credits.
- Foundations Curriculum in Art

7100:100	Survey of History of Art I	4
7100:101	Survey of History of Art II	4
7100:121	Three-Dimensional Design	3
7100:131	Introduction to Drawing	3
7100:132	Instrument Drawing	3
7100:144	Two-Dimensional Design	3
	or	
7100:286	Commercial Design Theory (for graphic design major)	3
7100:233	Life Drawing	3

- Electives — 6-9 credits.
- Two advanced-level art history courses (one in graphic design, three credits).
- Senior exhibition: Student must secure a faculty adviser in the major during the first week of the semester the student plans a senior show. The exhibition must be approved by the adviser prior to presentation.
- Portfolio review as specified for student's area of emphasis.
- Studio art courses must include one area of major emphasis as described below, plus studio electives to equal no less than 68 credits.

Ceramics			
7100:222	Introduction to Sculpture		3
7100:231	Drawing II		3
7100:254	Ceramics I		3
7100:354	Ceramics II		3
7100:454	Advanced Ceramics (to be repeated)		15

Crafts
Major courses:
A minimum of 36 credits in the craft areas of ceramics, fibers, metalsmithing and enameling to include at least nine credits in three of these areas.

7100:221	Design Applications		3
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Drawing			
7100:131	Introduction to Drawing		3
7100:231	Drawing II		3
7100:491	Architectural Presentations I		3
	or		
7100:283	Drawing Techniques		3
7100:331	Drawing III		3
7100:333	Advanced Life Drawing (to be repeated)*		6
7100:431	Drawing IV (to be repeated)*		6
7100:—	Printmaking		3

Graphic Design			
2240:122	Introduction to Commercial Photography		3
7100:121	Three-Dimensional Design		3
7100:131	Introduction to Drawing		3
7100:132	Instrument Drawing		3
7100:184	Introduction to Graphic Design		3
7100:231	Drawing II		3
7100:275	Introduction to Photography		3
7100:283	Drawing Techniques		3
7100:286	Commercial Design Theory		3
7100:288	Letterform and Typography		3
7100:386	Packaging Design		3
7100:387	Advertising Layout Design		3
7100:388	Advertising Production and Design		3
7100:480	Advanced Graphic Design (may be repeated to 12 credits)		3
7100:482	Corporate Identity and Graphic Systems		3
7100:484	Illustration		3
7100:485	Advanced Illustration		3
7100:488	Publication Design		3

Metalsmithing			
2920:247	Technology of Machine Tools		3
7100:222	Introduction to Sculpture		3
7100:266	Introduction to Metalsmithing		3
7100:268	Color in Metals		3
7100:283	Drawing Techniques		3
7100:366	Metalsmithing II		3
7100:466	Advanced Metalsmithing (to be repeated)		12

Painting			
7100:131	Introduction to Drawing		3
7100:144	Two-Dimensional Design		3
7100:231	Drawing II		3
7100:245	Introduction to Polymer Acrylic Painting		3
7100:246	Introduction to Watercolor Painting		3
7100:247	Introduction to Oil Painting		3
7100:348	Painting II (to be repeated in different media)		6
7100:449	Advanced Painting (to be repeated)		6

Photography			
2240:122	Introduction to Commercial Photography		3
3650:137	Light		3
7100:—	Printmaking		6
7100:231	Drawing II		3
7100:275	Introduction to Photography		3
7100:300	Art since 1945		3
7100:375	Photography II		3
7100:475	Advanced Photography (to be repeated)		12

Printmaking			
7100:131	Introduction to Drawing		3
7100:144	Two-Dimensional Design		3
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
7100:231	Drawing II		3
Two of the following:			
7100:275	Introduction to Photography		3
7100:375	Photography II		3
7100:317	Printmaking II (may be repeated)		3
7100:418	Advanced Printmaking (may be repeated)		3

One of the following:			
7100:245	Introduction to Acrylic Painting		3
7100:246	Introduction to Watercolor Painting		3
7100:247	Introduction to Oil Painting		3

Sculpture			
7100:221	Design Applications		3
7100:222	Introduction to Sculpture		3
7100:231	Drawing II		3
7100:254	Introduction to Ceramics		3
	or		
7100:266	Introduction to Metalsmithing		3
7100:321	Figurative Sculpture		3
7100:322	Sculpture II		3
7100:422	Advanced Sculpture (to be repeated)		9

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

7400: Home Economics and Family Ecology*

The mission of the School 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, child life, foods and nutrition, clothing, textiles and interiors and vocational home economics education. 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, food product development and food service administrator.

- General Studies — 39 credits.**
 - Home Economics and Family Ecology Core:
All students enrolled in baccalaureate programs in the School of Home Economics and Family Ecology are required to complete the following core of requirements:
- | | | | |
|----------|--|--|---|
| 7400:147 | Orientation to Professional Studies in Home Economics & Family Ecology | | 1 |
| 7400:447 | Senior Seminar: Critical Issues in Professional Development | | 1 |

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

Clothing, Textiles and Interiors:			
7400:121	Textiles		3
7400:159	Family Housing		3
7400:419	Clothing Communication		3
Family and Child Development:			
7400:201	Relational Patterns in Marriage and Family		3
7400:265	Child Development		3
Foods and Nutrition:			
7400:133	Nutrition Fundamentals†		3
7400:141	Food for the Family		3
Management:			
7400:362	Family Life Management		3

Bachelor of Arts in Family and Child Development

This degree offers the following emphases: family development, child development, pre-kindergarten teaching certification and child-life specialist. Students interested in pre-kindergarten teaching certification should consult an adviser from the School of Home Economics and Family Ecology during first semester freshman year. In addition to departmental requirements listed under 7400: Home Economics and Family Ecology, a student must complete one of the following options:

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

**The University College's requirement for general studies for the Bachelor of Science in Dietetics and the Bachelor of Arts in Foods and Nutrition is 42 credits. The additional three credits come from the use of 3150:129,30 *General Chemistry* (eight credits) to meet the natural science requirements, and from the use of 3850:100 *Introduction to Sociology* (four credits) and 3250:100 *Introduction to Economics* (three credits) to meet the Social Studies requirement. The above mentioned courses met American Dietetic Association requirements.

†Required for B.S. in dietetics and B.A. in foods and nutrition.

*Required to be repeated once for drawing majors only. (6 credits total).

Family Development

3750:100	Introduction to Psychology	3
3750:130	Developmental Psychology	4
7400:255	Fatherhood: The Parent Role	2
7400:301	Consumer Education	3
7400:360	Parent-Child Relations	3
7400:390	Family Relationships in Middle and Later Years	2
7400:401	Family-Life Patterns in Economically Deprived Home	2
7400:404	Adolescence in the Family Context	3
7400:406	Family Financial Management	3
7400:440	Family Crisis	3
7400:442	Human Sexuality	3
7400:445	Public Policy and The American Family	3
7400:496	Parenting Skills	3
7400:497	Internship in Home Economics	5
7750:276	Introduction to Social Welfare	4
	Electives selected in consultation with adviser	1

7400:340	Meal Service	2
7400:450	Demonstration Techniques	2
7400:497	Internship in Home Economics and Family Ecology	5

- Food Science Electives:
(Students select one or more of the following upper division Food Science courses. A minimum grade of C is required.)

7400:470	The Food Industry: Analysis and Field Study	3
7400:474	Cultural Dimensions of Food	3
7400:475	Analysis of Food	3
7400:476	Developments in Food Science	3
- Language or Language Option Requirements: 14
- General Electives: 7-10

Child Development

2200:245	Infant/Toddler Day-Care Programs	3
2200:250	Observing and Recording Child Behavior	3
5200:310	Introduction to Early Childhood	3
5200:315	Issues and Trends in Early Childhood Education	3
5200:360	Teaching in the Nursery Center	2
5200:370	Nursery Center Laboratory	2
5850:295	Education Technician Field Experience	5
	or	
7400:497	Internship in Home Economics	5
7400:132	Early Childhood Nutrition	2
7400:255	Fatherhood: The Parent Role	2
7400:270	Theory and Guidance of Play	3
7400:280	Creative Activities for Pre-Kindergarten Children	4
7400:303	Children As Consumers	3
7400:360	Parent-Child Relations	3
7400:401	Family-Life Patterns in Economically Deprived Home	2
7400:404	Adolescents in the Family Context	3
7400:460	Organization and Supervision of Child-Care Centers	3
	Electives selected in consultation with adviser	10

Additional Requirements for Pre-K Certificate:

5100:250	Human Development and Learning	3
5100:310	Educational Media and Technology	3
5200:100	Student Participation	1
5200:200	Student Participation	1
5200:286	Children's Literature	3
5200:350	Multi-Cultural Education: Concepts, Program and Practices	3
5200:495	Student Teaching	8
5550:235	Concepts of Motor Development and Learning	2
5610:450	Special Education Programming: Early Childhood	3
7400:445	Public Policy and the American Family	3

Child-Life Specialist

3750:100	Introduction to Psychology	3
2740:120	Medical Terminology	3
3750:430	Psychological Disorders of Children	4
5200:360	Teaching in Nursery School	2
5200:370	Nursery Center Laboratory	2
5600:450	Counseling Problems Related to Life Threatening Illness and Death	3
5610:440	Developmental Characteristics of Exceptional Individuals	3
7400:270	Theory and Guidance of Play	3
7400:280	Creative Activities for Pre-Kindergarten Children	4
7400:404	Adolescence in the Family Context	3
7400:451	The Child in the Hospital	4
7400:455	Practicum: Establishing and Supervising a Child-Life Program Centers	3
7400:484	Orientation to the Hospital Setting	2
7400:495	Internship: Guided Experience in a Child-Life Program	8
7400:496	Parenting Skills	3
	Electives selected in consultation with adviser	11

Bachelor of Arts in Food Science *nutrition*

In addition to school requirements listed under 7400: Home Economics and Family Ecology, the student must complete the following courses:

- Core
(A minimum grade of C (2.00) required)

7400:245	Food Theory and Application I	3
7400:246	Food Theory and Application II	3
7400:403	Advanced Food Preparation	3
7400:420	Experimental Foods	3
- Supporting Discipline Requirements:

2280:233	Restaurant Operations and Management	4
	or	
7400:310	Food Systems Management I and	5
	and	
7400:315	Food Systems Management I, Clinical	2
2440:120	Computer and Software Fundamentals	2
3100:130	Principles of Microbiology	3
3750:100	Introduction to Psychology	3
6500:301	Management Principles and Concepts	3
6600:300	Marketing Principles	3
7400:301	Consumer Education	3
7400:316	Science of Nutrition	4

Bachelor of Arts in *Textiles + Clothing* **Clothing, Textiles and Interiors**

Business Option

- Core:

6200:211	Accounting I	
	or	
2420:211	Basic Accounting I	3
6600:300	Marketing Principles	3
	or	
2420:101	Elements of Distribution	3
6600:340	Retail Management	3
	or	
2520:201	Retailing Fundamentals	4
6600:350	Advertising and Marketing Communications	3
	or	
2520:103	Principles of Advertising	3
7400:121	Textiles	3
7400:123	Fundamentals of Construction	3
7400:158	Introduction to Interior Design and Furnishings	3
7400:219	Clothing Communications	3
7400:221	Evaluation of Apparel and Household Textiles	3
7400:239	The Fashion Industry	3
7400:302	Consumers of Services	3
7400:319	Historic Costume	3

- Electives: Student must select 18 hours from the following courses.

7400:159	Family Housing	3
7400:305	Advanced Construction and Tailoring	3
7400:311	Contemporary Needle Arts	3
7400:418	History of Furnishings and Interiors I	3
7400:419	History of Furnishings and Interiors II	3
7400:423	Professional Image Analysis	3
7400:432	Interior Textiles and Product Analysis	3
7400:436	Textile Conservation	3
7400:439	Fashion Analysis	3
7400:449	Flat Pattern Design	3
7400:485	Machine Stitchery	3
7400:490	Seminars	3
7400:490	Workshops	3
7400:497	Fashion Retailing Internship	3

Interior Design Option

- Core:

2920:250	Architectural Drafting	3
7400:121	Textiles	3
7400:123	Fundamentals of Construction	3
7400:158	Introduction of Interior Design and Furnishings	3
7400:159	Family Housing	3
7400:302	Consumers of Services	3
7400:418	History of Furnishings and Interiors I	3
7400:419	History of Furnishings and Interiors II	3
7400:432	Interior Textiles and Product Analysis	3
7400:433	Residential Design	3
7400:434	Commercial Design	3
7400:435	Principles and Practices of Design	3
7400:497	Interior Design Internship	3

- Electives: (Student must select 20 hours from the following courses, two of which must be from starred (*) courses)

6200:211*	Accounting I	4
	or	
2420:211	Basic Accounting I	3
6600:300*	Marketing Principles	3
	or	
2420:101	Elements of Distribution	3
6600:340*	Retail Management	3
	or	
2520:201	Retailing Fundamentals	4
6600:350*	Advertising and Marketing Communications	3
	or	
2520:103	Principles of Advertising	3
7100:105	Understanding Art	3
7100:131	Introduction to Drawing	3
7400:423	Professional Image Analysis	3
7400:485	Seminar: Lighting for Man Made Environments	3
7400:485	Seminar: CAD for Interior Designers	2
7400:485	Seminar: Office Design	2

- Additional Requirements: (Students are required to take the following courses; however, they may be used to fulfill the language alternative requirements)

7100:121	Three Dimensional Design	3
7100:144	Two Dimensional Design	3
7100:244	Color Concepts	3
7100:491	Architectural Presentations I	3
7100:492	Architectural Presentations II	3

Theatre Costume Option

- Core:

7100:131	Drawing	3
7100:144	2 Dimensional Design	3
7400:121	Textiles	3
7400:123	Fundamentals of Construction	3
7400:219	Clothing Communication	3
7400:305	Advanced Construction and Tailoring	3
7400:317	Historic Costume	3
7400:418	History of Furnishings and Interiors I	3
7400:419	History of Furnishings and Interiors II	3
7400:449	Flat Pattern Design	3
7800:100	Experiencing Theater	3
7800:334	Stage Costume Construction	3
7800:335	Introduction to Stage Costume History and Design	3
7800:435	Stage Costume Design	3
7800:437	Styles of Stage Costume Design	3
- Electives: (Student must select 12 hours from the following courses)

7400:239	Fashion Industry	3
7400:311	Contemporary Needle Arts	3
7400:423	Professional Image Analysis	3
7400:432	Textile Conservation	3
7400:439	Fashion Analysis	3
7400:459	Machine Stitchery	3
7400:485	Seminars	3
7400:490	Workshops	3
7800:262	Stage Make Up	3
7800:336	History and Construction of Period Furnishings for the Stage	3
7800:370	The American Theatre: Play, Players, and Playwrights	3

Bachelor of Arts (2+2) with C & T College Marketing and Sales Technology

General Information

The Fashion Option student will complete 64 hours in the Community and Technical College and 65-66 hours in the College of Fine and Applied Arts. The Retailing Option student will complete 66 hours in the Community and Technical College and 71 hours in the College of Fine and Applied Arts.

In the first two years the student will be advised by faculty in the Community and Technical College. In the last two years, the student will be advised by the Clothing, Textiles, and Interiors faculty in the School of Home Economics and Family Ecology, College of Fine and Applied Arts.

Textiles + Clothing
Bachelor of Arts in Clothing, Textiles and Interiors, Business Option (2+2) with C & T Marketing and Sales Technology, Fashion Option

- Completion of all requirements for the Associate Degree in Marketing and Sales Technology, Fashion Option, as established by the Community and Technical College, with technical electives taken from courses in the School of Home Economics and Family Ecology, College of Fine and Applied Arts.

C&T Requirements

1100:105	Introduction to Public Speaking	3
1100:---	Physical Education	1
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:243	Survey of Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals and	2
2520:215	Advertising Projects or	2
2520:219	Sales Projects	2
2520:103	Principles of Advertising	3
2520:106	Visual Promotion	4
2520:202	Retailing Fundamentals	4
2520:210	Consumer Service Fundamentals	2
2520:211	Mathematics of Retail Distribution	3
2520:212	Principles of Salesmanship	4
2520:217	Merchandising Projects	2
2540:119	Business English	3

Fashion Option

7400:121	Textiles	3
7400:317	Historic Costume	3
7400:219	Clothing Communication	3
7400:239	The Fashion Industry	3

College of Fine and Applied Arts Requirements

- Completion of remaining General Studies requirements
- Completion of language alternative: 14 hours of specified course work, completed as a part of the requirements for the Associate Degree, will be accepted as language alternatives for the Bachelor's degree.
- The following courses required for those students completing both the Associate Degree in Marketing and Sales Technology, Fashion or Retailing Options, and the Bachelors of Arts in Clothing, Textiles, and Interiors, Business Option:

2020:240	Human Relations	3
2440:120	Computer and Software Fundamentals	2
2520:211	Mathematics and Retail Distribution	3
2520:212	Principles of Sales	3
2520:106	Visual Promotion	3
7400:123	Fundamentals of Clothing Construction	3
7400:133	Nutrition Fundamentals	3
	or	
7400:141	Food for the Family	3
7400:147	Orientation to Professional Studies	1
7400:158	Introduction to Interior Design and Furnishing	3
7400:221	Evaluation of Apparel and Household Textiles	3
7400:201	Relational Patterns in Marriage and Family	3
	or	
7400:265	Child Development	3
7400:302	Consumers of Services	3
7400:362	Family Life Management	3
7400:447	Senior Seminar: Critical Issues	1
7400:	Clothing, Textiles, and Interiors Electives (see Clothing, Textiles and Interiors Business Option)	18

Textiles + Clothing
Bachelor of Arts in Clothing, Textiles and Interiors, Business Option (2+2) with C & T Marketing and Sales Technology, Retailing Option

- Completion of all requirements for the Associate Degree in Marketing and Sales Technology, Retailing Option, as established by the Community and Technical College with the addition of two elective hours. Total electives is thus brought to nine which students fulfill by taking three courses selected from a list of suggested Clothing, Textiles, and Interiors courses from the School of Home Economics and Family Ecology.

C&T College Requirements

1100:105	Introduction to Public Speaking	3
1100:---	Physical Education	1
2020:121	English	4
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	3
2420:170	Business Mathematics	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2420:243	Survey in Finance	3
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals and	2
2520:215	Advertising Projects or	2
2520:219	Sales Projects	2
2520:103	Principles of Advertising	3
2520:106	Visual Promotion	4
2520:202	Retailing Fundamentals	4
2520:210	Consumer Service Fundamentals	2
2520:211	Mathematics of Retail Distribution	3
2520:212	Principles of Sales	4
2520:217	Merchandising Projects	2
2540:119	Business English	3
7400:121	Textiles	3
7400:219	Clothing Communication	3
7400:239	The Fashion Industry	3

College of Fine and Applied Arts Requirements

- Completion of remaining General Studies requirements.
 - Completion of language alternatives: 14 hours of specified course work completed as a part of the requirements for the Associate Degree will be accepted as language alternatives for the Bachelor's degree (see requirements for Marketing and Sales Technology, Retailing Option).
- | | | |
|----------|---|----|
| 7400:123 | Fundamentals of Construction | 3 |
| 7400:133 | Nutrition Fundamentals | 3 |
| | (see catalogs for alternatives) | |
| 7400:147 | Orientation to Professional Studies | 1 |
| 7400:158 | Introduction to Interior Design and Furnishing | 3 |
| 7400:221 | Evaluation of Apparel and Household Textiles | 3 |
| 7400:201 | Relational Patterns in Marriage and Family | 3 |
| | or | |
| 7400:265 | Child Development | 3 |
| 7400:302 | Consumers of Services | 3 |
| 7400:317 | Historic Costume | 3 |
| 7400:362 | Family Life Management | 3 |
| 7400:447 | Senior Seminar: Critical Issues | 1 |
| 7400: | Clothing, Textiles, and Interiors Electives (see Clothing, Textiles and Interiors, Business Option) | 18 |

Bachelor of Science in Dietetics

Both the Coordinated Program (CP) and the Traditional Program lead to a Bachelor of Science degree. The Coordinated Program integrates clinical experiences within the junior and senior years, allowing active membership in the American Dietetic Association and eligibility to take the registration examination following graduation from the four-year program. The Traditional Program requires an approved pre-professional practice (dietetic internship or AP4) following graduation to become eligible for active membership in the American Dietetic Association and to take the registration examination.

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

		<i>Credits</i>
2420:211	Basic Accounting I or	3
6200:201	Accounting I	4
3100:130	Principles of Microbiology	3
3100:206	Anatomy and Physiology I	4
3100:207	Anatomy and Physiology II	4
3150:203	Nutritional Biochemistry	3
3470:260	Basic Statistics	3
70:261	Introductory Statistics I	2
3750:100	Introduction to Psychology	3
5400:351	Consumer Homemaking Methods	4
6500:480	Introduction to Health-Care Management	3
6500:341	Personnel Management	3
7400:245	Food Theory and Application I	3
7400:246	Food Theory and Application II	3
7400:310	Food Systems Management I	5
7400:315	Food Systems Management I — Clinical	2
7400:316	Science of Nutrition	4
7400:328	Nutrition in Medical Science I	4
7400:413	Food Systems Management II	3
7400:420	Experimental Foods	3
7400:424	Nutrition in the Life Cycle	3
7400:428	Nutrition in Medical Science II	5
Additional Coordinated Program requirements:		
7400:329	Nutrition in Medical Science I — Clinical	2
7400:380	Introduction to Community Nutrition	1
7400:414	Food Systems Management II — Clinical	3
7400:429	Nutrition in Medical Science II — Clinical	3
7400:480	Community Nutrition I	3
7400:481	Community Nutrition I — Clinical	1
7400:482	Community Nutrition II	3
7400:483	Community Nutrition II — Clinical	1
7400:486	Staff Relief: Dietetics	1
Additional Traditional dietetics requirements:		
7400:301	Consumer Education	3

Bachelor of Science in Dietetics (2+2) with C & T (Restaurant Management)

1100:_____	Physical Education	1
1100:_____	Eastern Civilization	2
1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:112	English Composition II	4
1100:320	Western Cultural Traditions	8
2020:121	English	4
2020:222	Technical Report Writing	3
2040:247	Survey of Basic Economics	3
2280:120	Safety and Sanitation	3
2280:121	Fundamentals of Food Preparation I	4
2280:122	Fundamentals of Food Preparation II	4
2280:123	Meat Technology	2
2280:135	Menu Planning and Purchasing	3
2280:232	Dining Room Service and Training	2
2280:233	Restaurant Operation and Management	4
2280:236	Food and Beverage Cost Control	3
2280:237	Internship	1
2280:240	Systems Management and Personnel	3
2280:243	Food Equipment and Plant Operations	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:212	Basic Accounting II or	3
2540:263	Business Communications	3
2420:280	Essentials in Law	3
2520:103	Principles of Advertising	3
2540:119	Business English	3
3100:130	Principles of Microbiology	3
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4
3150:129	General Chemistry I	4
3150:130	General Chemistry II	4
3150:203	Nutrition Biochemistry	3
3450:104	College Algebra	4
3470:260	Basic Statistics or	3
3470:261	Introductory Statistics I	2

3750:100	Introduction to Psychology	3
3850:100	Introduction to Sociology	4
5400:351	Consumer Homemaking Methods	4
6500:301	Management: Principles and Concepts or	3
6500:480	Introduction to Health Care Management	3
7400:_____	Clothing Communication, Textiles or Housing option	3
7400:133	Nutrition Fundamentals	3
7400:147	Home Economics Survey	1
7400:201	Family Development or	2
7400:265	Child Development	3
7400:301	Consumer Education	3
7400:316	Science of Nutrition	4
7400:328	Nutrition in Medical Science I	4
7400:362	Home Management Theory	3
7400:413	Food Systems Management II	3
7400:420	Experimental Foods	3
7400:421	Special Problems: Food Theory and Application	3
7400:421	Special Problems: Food Systems Management I	2
7400:424	Nutrition in Life Cycle	3
7400:428	Nutrition in Medical Science	5
7400:447	Critical Issues in Home Economics	1

Home Economics Education

Home economics education majors receive training and preparation to teach in grades 7 through 12. Options are available in vocational consumer home-making, 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

Students wishing to major in music must complete the standard undergraduate application for admission and return it to the Office of Admissions. A student cannot be formally admitted to the School of Music until admitted to the University. To be accepted as a music major, both freshmen and transfer students must successfully complete an audition on their major applied instrument and be tested in the knowledge of rudimentary theory, ear training, and keyboard skills. Prospective students should contact the School of Music for information on specialized programs.

- Core curriculum in music (for all degree programs)

7500:151	Theory I	3
7500:152	Theory II	3
7500:154	Music Literature I	2
7500:155	Music Literature II	2
7500:161	Aural/Oral Music Reading Skills	4
7500:251	Theory III	3
7500:252	Theory IV	3
7500:261	Keyboard Harmony I	2
7500:262	Keyboard Harmony II	2
7500:351	Music History I	3
7500:352	Music History II	3

- Total core credits — 30

Bachelor of Arts

- Total of 128 credits required for degree.
- General Studies and the second year of a foreign language — 53 credits.
- Core Curriculum in music — 30 credits.
- Performance courses:

7500:157	Student Recital (four semesters)	0
7510:_____	Music Organization (four semesters)	4
7520:_____	Applied Music	8
- 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 in Piano Performance (emphasis in accompanying)

- Total of 130 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.

- Applied music and performance courses:

7500:114	Keyboard Ensemble	8
7520:—	Applied Piano (jury out of "400s" level Applied Voice)	32

- In order to complete this program, students are required to have a reading knowledge of French, German, and Italian. This can be accomplished through 7500:265 and 266.

- Additional required music courses — 14 credits

7500:325	Research in Music	2
7500:361	Conducting	2
7500:365	Song Literature	2
7500:371	Analytical Techniques	2
7500:451	Introduction to Musicology	2
7500:452	Composition	2
7500:497	Independent Study (Chamber Music)	2

- Electives 5
- Senior recital (to include works as soloist, accompanist and in chamber ensembles).

Performance (emphasis in brass)

- Total of 129 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Applied music and performance courses — 40 credits

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 14 credits

7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:372	20th Century Analysis	2
7500:452	Composition	2
7500:454	Orchestration	2
7500:471	Counterpoint	2
7500:497	Independent Study (with approval of applied instructor and adviser)	2

- Electives — 6 credits.
- Senior recital (full recital required).

Performance (emphasis in piano/harpsichord)

- Total of 129 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 14 credits.

7500:271	Piano Pedagogy and Literature I	2
7500:272	Piano Pedagogy and Literature II	2
7500:325	Research in Music	2
7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:451	Introduction to Musicology	2
7500:497	Independent Study (with approval of applied instructor and advisor)	2

- Electives — 6 credits.
- Senior recital (full recital required).

Performance (emphasis in strings)

- Total of 130 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 15 credits

7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:372	20th Century Analysis	2
7500:454	Orchestration	2
7500:463	Repertoire and Pedagogy: String Instruments	3
7500:471	Counterpoint	2
7500:497	Independent Study (with approval of applied instructor and advisor)	2

- Electives — 6 credits.
- Senior Recital (full recital required)

Performance (emphasis in voice)

- Total of 141 credits required for degree.

- General Studies — 39 credits.

- Core curriculum in music — 30 credits.

- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 14 credits.

7500:371	Analytical Techniques	2
7500:471	Counterpoint	2
7500:361	Conducting	2
7510:108	Opera Workshop	2
7500:265	Diction I	2
7500:266	Diction II	2
7500:365	Song Literature	2

- Foreign Language Requirement — 12 credits

3550:101	Italian	4
3530:101	German	4
3520:101	French	4

- Senior recital (full recital required).
- Electives — 6 credits.

Performance (emphasis in woodwinds)

- Total of 129 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 14 credits

7500:325	Research in Music	2
7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:452	Composition	2
7500:454	Orchestration	2
7500:471	Counterpoint	2
7500:497	Independent Study (with approval of applied instructor and advisor)	2

- Electives — six credits.
- Senior recital (full recital required).

Performance (emphasis in organ)

- Total of 128 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music (7500:262 not required) — 28 credits.
- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 15 credits

7500:263	Service Playing for Organists (in lieu of 7500:262)	2
7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:456	Advanced Conducting: Choral Repertoire and Pedagogy: Organ	3
7500:471	Counterpoint	2
7500:497	Independent Study (Choral Arranging)	2

- Electives — 6 credits.
- Senior recital (full recital required).

Performance (emphasis in percussion)

- Total of 129 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32

- Additional required music courses — 14 credits

7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:372	20th Century Analysis	2
7500:432	Teaching and Literature: Percussion Instruments	2
7500:454	Orchestration	2
7500:455	Advanced Conducting: Instrumental	2
7500:471	Counterpoint	2

- Electives — 6 credits.
- Senior recital (full recital required).

Performance (emphasis in guitar)

- Total of 129 credits required for degree.
- General studies — 39 credits.
- Core curriculum in music (7500:262 not required) — 28 credits.
- Applied music and performance courses — 40 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music - primary instrument (completion of the 400 level is required prior to graduation)	32
- Additional required music courses — 16 credits.

7500:259	Fretboard Harmony (in lieu of 7500:262)	2
7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:467	Guitar Pedagogy	2
7500:469	History and Literature of the Guitar and Lute	2
7500:468	Guitar Arranging	2
7500:471	Counterpoint	2
7500:497	Independent Study (with approval of applied instructor and advisor)	2
- Electives — 6 credits.
- Senior recital (full recital required).

History and Literature

- Total of 130 credits required for degree.
 - General Studies — 39 credits.
 - Core curriculum in music — 30 credits.
 - Applied music and performance courses — 24 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization	8
7520:—	Applied Music — primary instrument (completion of the 200 level is required for graduation)	16
 - Additional music courses — 14 credits.

7500:325	Research in Music	2
7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:451	Introduction to Musicology	2
7500:452	Composition	2
7500:454	Orchestration	2
7500:455	Advanced Conducting: Instrumental	2
 - Special study electives in music — 8 credits.
- Graduate-level courses are available to those undergraduate upperclassmen who qualify for special permission to register.
- | | | |
|----------|---|--|
| 7500:497 | Independent Study in Music | |
| 7500:601 | Choral Literature | |
| 7500:621 | Music History Survey: Middle Ages and Renaissance | |
| 7500:622 | Music History Survey: Baroque Era | |
| 7500:623 | Music History Survey: Classical and Romantic Eras | |
| 7500:624 | Music History Survey: Twentieth Century | |
- Cognate area such as history, language or other arts. 8
 - Electives 7
 - A reading proficiency equal to the second year of undergraduate study in an approved foreign language (preferably German, French, or Italian) is required for completion of the degree program.

Theory-Composition

- Total of 130 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Additional music performance courses — 32 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music — primary instrumental††	8
7520:—	Applied Music — composition	16
- Additional music courses — 22 credits.

7500:325	Research in Music	2
7500:361	Conducting	2
7500:362	Choral Arranging	2
7500:371	Analytical Techniques	2
7500:372	Techniques for Analysis: 20th Century Music	2
7500:451	Introduction to Musicology	2
7500:452	Composition	2
7500:454	Orchestration	2
7500:455	Advanced Conducting: Instrumental	2
	or	
7500:456	Advanced Conducting: Choral	2
7500:471	Counterpoint	2
7500:472	Advanced Orchestration	2
- Senior recital of original composition.
- Electives — seven credits.

††Passage to the 300 level in the primary applied area is required before graduation.

Jazz Studies‡

- Total of 132 credits required for degree.
- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Additional music courses — 6 credits.

7500:361	Conducting	2
7500:371	Analytical Techniques	2
7500:454	Orchestration	2
- Additional jazz courses — 21 credits.

7500:210,1	Jazz Improvisation I, II	4
7500:212	The Music Industry: A Survey of Practices and Opportunities	2
7500:307	Techniques of Stage Band Performance and Direction	2
7500:308	Jazz History and Literature	3
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
- Applied music and performance courses — 28 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization	
	Major Conducted	4
	Jazz Ensembles	8
7520:—	Applied Music — primary instrument (completion of 200 level is required for graduation)	16
	Saxophone major must pass flute and clarinet proficiency (completion of 100 level is required)	32
- Electives — eight credits.
- Senior recital.

Music Education

- General Studies — 39 credits.
- Core curriculum in music — 30 credits.
- Applied music and performance courses — 24 credits.

7500:157	Student Recital (eight semesters)	0
7510:—	Music Organization (eight semesters)	8
7520:—	Applied Music — primary instrumental (completion of the 200 level is required prior to graduation)	16
- Additional music courses — 10 credits.

7500:254	String Instruments I	2
7500:297	Introduction to Music Education	2
7500:340	Teaching General Music	2
7500:342	Elementary Instrumental Music	2
7500:361	Conducting	2
- Additional music courses by major:

Vocal and Keyboard — 11 credits		
7500:341	Curricular Innovations in General Music	3
7500:362	Choral Arranging	2
7500:456	Advanced Conducting: Choral	2
	Approved Electives	4
Instrumental (Band) — 11 credits		
7500:205	Marching Band Organization and Technique	1
7500:275	Double Reeds/Percussion Methods	1
7500:276	Brass Methods	1
7500:277	Woodwind Methods	1
7500:307	Techniques of Stage Band Performance and Direction	1
7500:343	Secondary Instrumental Music	2
7500:454	Orchestration	2
7500:455	Advanced Conducting: Instrumental	2
Instrumental (String) — 11 credits		
7500:255	String Instruments Techniques (second semester)	2
7500:276	Brass Methods	1
7500:277	Woodwind Methods	1
7500:454	Orchestration	2
7500:455	Advanced Conducting: Instrumental	2
	Approved Electives	3
- Professional Education (including Student Teaching and 7500:492 Senior Seminar) — 25 credits.
- One-half recital during 12 months prior to graduation but not during the semester of student teaching except with special permission of Area Coordinator.
- Minimum vocal, keyboard and conducting proficiencies must be attained before assignment to student teaching.

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

‡Acceptance in the jazz program by permission of coordinator of Jazz Studies.

7600: Communication

Requirements for transferring into the School of Communication

Completion of 7600:102, 7600:115, 1100:111 or 2020:121, 1100:112 and 1100:105 or 1100:106 with grade of C or better in each course required to transfer into the department as a major or to enroll in 300-400 level courses in the School of Communication.

Bachelor of Arts

• General Studies and Second Year of a Language	Credits	
		53
• Core (Grade of C or better required for all core courses.)		
7600:102 Survey of Mass Communication		3
7600:115 Survey of Communication Theory		3
7600:200 Careers in Communication		1
7600:384 Communication Research		3
• Concentration in business and organizational communication, communication/rhetoric or mass media communication as described in tracks plus departmental electives.		36
• University electives		29

Bachelor of Arts in Business and Organizational Communication

Bachelor of Arts in Communication/Rhetoric

Bachelor of Arts in Mass Media-Communication

• General Studies and "tag" degree course work	53
• Core	10
• Area of specialization as described below plus Department of Communication electives	36
• University electives	29
• Total	128

Exit requirement

To graduate with a degree from the Department of Communication, a student must attain an overall minimum 2.30 GPA for all courses taken in the School of Communication.

Broadcasting

• Core curriculum	10
• Required courses	24
7600:280 Media Production Techniques	3
7600:388 History and Structure of Broadcasting	3
• Select a total of 18 credits from these two blocks*	
7600:282 Radio Production	3
7600:283 Television Production	3
7600:288 Film Production	3
7600:361 Audio Recording Techniques	3
7600:383 Advanced Television Production	3
7600:387 Radio Television Writing	3
7600:201 Newswriting	3
7600:395 Radio Station Programming and Operations	3
7600:396 Television Station Programming and Operations	3
7600:484 Regulation of Media	3
7600:496 Broadcast Sales/Management	3
• Departmental Electives	12
• Departmental Total	46

Business and Organizational Communication

• Core curriculum	10
• Major: Choice of Organizational Communication or Public Relations track follows:	
Public Relations track:	
Major area: (required)	
7600:201 Newswriting	3
7600:280 Media Production Techniques	3
7600:303 Public Relations Writing	3
7600:309 Publications Production	3
7600:403 Communication in Public Relations I	3
7600:404 Communication in Public Relations II	3
Choose nine credits from the following list:	
7600:252 Persuasion	3
7600:235 Interpersonal Communication	3
7600:345 Business & Professional Speaking	3
7600:405 Media Copywriting	3
Communication electives: (not used for above requirements)	9
• Organizational Communication track:	
Major area: (required)	
7600:226 Interviewing	3

7600:235 Interpersonal Communication	3
7600:344 Group Decision Making	3
7600:345 Business & Professional Speaking	3
7600:435 Organizational Communication I	3
7600:436 Organizational Communication II	3
Choose nine credits from one of the following lists:	
7600:201 Newswriting	3
7600:303 Public Relations Writing	3
7600:309 Promotional Publications	3
7600:405 Media Copywriting	3
or	
7600:280 Media Production Techniques	3
7600:245 Argumentation	3
or	
7600:252 Persuasion	3
7600:454 Theory of Group Processes	3
7600:357 Speech in America	3
Departmental Electives: (not used for above requirements)	9

Interpersonal and Public Communication

• Core curriculum	10
• Required courses	9
7600:235 Interpersonal Communication	3
7600:245 Argumentation	3
7600:346 Advanced Public Speaking	3
• Select a total of nine credits from the following list:	
7600:225 Module: Listening	1
7600:226 Interviewing	3
7600:227 Nonverbal Communication	3
7600:252 Persuasion	3
7600:325 Intercultural Communication	3
7600:355 Freedom of Speech	3
7600:344 Group Decision Making	3
• AND a total of six credits from the following list:	
7600:454 Theory of Group Processes	3
7600:457 Public Speaking in America	3
7600:470 Analysis of Public Discourse	3
7600:471 Theories of Rhetoric	3
• A total of 12 credits selected from any courses in the School of Communication; may include additional courses from the lists above.	
• Departmental Total	46

Corporate Video

• Core curriculum	10
• Required courses	26-30
7600:201 Newswriting	3
7600:280 Media Production Techniques	3
7600:361 Audio Recording Techniques	3
7600:362 Video Camera and Recording	3
7600:463 Corporate Video Design	3
7600:464 Corporate Video Management	3
7600:283 TV Production**	3
7600:466 Audio and Video Editing**	3
7600:467 Directing Video Productions**	3
7600:492 Corporate Video Practicum	2-6
• Departmental Electives	6-10
• Departmental Total	46

Mass Media-Communication

• Core curriculum	10
• Required courses	24
7600:201 Newswriting	3
7600:204 Editing	3
7600:206 Feature Writing	3
7600:280 Media Production Techniques	3
7600:282 Radio Production	3
7600:283 TV Production	3
7600:301 Advanced Newswriting	3
7600:484 Regulations in Mass Media	3
• Departmental Electives	12
• Departmental Total	46

Bachelor of Arts (2+2) with C&T College (Computer Programming Technology)

Communication Major

• Communication core	18
• Area of specialization: Business and Organizational Communication	18
• Communication electives	9
• Tag in Computer Programming	14
• Total	59

*May select a maximum of 15 credits from each section.

**May select two of three courses.

• General Studies		39
• Other Required Courses for the Associate Degree		33
• University Electives		0
• Total Credits for Bachelor's Degree		131
1100:22x	Natural Science	6
1100:33x	World Civilization	4
1100:105	Introduction to Public Speaking or	3
1100:106	Effective Oral Communication	3
1100:110	Physical Education	1
1100:112	English Composition II	4
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
2020:121	English	4
2020:222	Technical Report Writing	3
2030:141,2	Math for Data Processing I, II	7
2040:240	Human Relations	3
2040:247	Survey of Basic Economics	3
2420:211,2	Basic Accounting I, II	6
2440:xxx	Computer Programming Electives	6
2420:104	Introduction to Business	3
2440:120	Computer and Software Fundamentals	2
2440:121	Introduction to Programming Logic	2
2440:131	Introduction to Programming	2
2440:132	Assembler Programming	3
2440:133	Structured Cobol Programming	2
2440:234	Advanced Cobol Programming	3
2440:239	RPG II	2
2440:241	Systems Analysis and Design	3
2440:251	Computer Applications Projects	5
2440:254	Job Control Language	1
7600:xxx	Mass Media Electives	9
7600:102	Survey of Mass Communication	3
7600:115	Survey of Communication Theory	3
7600:201	Newswriting	3
7600:235	Interpersonal Communication	3
7600:245	Argumentation	3
7600:280	Media Production Technique	3
7600:309	Publications Production	3
7600:335	Organizational Communication	3
7600:344	Public Decision Making	3
7600:345	Business and Professional Speaking	3
7600:384	Communication Research	3
7600:403	Communications in Public Relations	3
7600:282	Radio Production or	3
7600:361	Audio Recording Techniques	3
7600:283	Television Production	3
7600:288	Film Production	3
7600:387	Radio and TV Writing or	3
7600:463	Corporate Video Design	3
7600:388	History and Structure of Broadcasting or	3
7600:464	Corporate Video Management	3
	Additional production course	3
	Communication electives	12

Typical work settings for M.A.-level speech-language pathologists and audiologists include: schools, hospitals, clinics, private practice, physicians' offices, hearing aid dealerships and universities. For employment in school settings, individuals must be certified by the department of education of the state in which they will be working. Since more than 65 percent of practicing speech-language pathologists work in public school settings, it is recommended that undergraduate students who are interested in pursuing careers in the communicative disorders professions, complete the requirements for educational certification, except for student teaching, which can be taken only at the graduate level. These educational requirements can be taken as electives. Each student should consult with an adviser about this option.

Program Requirements:

- Completion of the General Studies and the second year of a foreign language for the B.A., or the non-foreign language option for the tag degree (B.A. in Communicative Disorders) — 54 credits.

- Electives — 22 credits:

- Core Curriculum in Communicative Disorders:

7700:110	Introduction to Disorders of Communication	3
7700:111	Introduction to Phonology	2
7700:130	Bases and Structure of Languages	3
7700:140	Introduction to Hearing Science	3
7700:210	Applied Phonology	3
7700:211	Introduction to Speech Science	2
7700:230	Speech and Language Development	3
7700:240	Aural Rehabilitation	4
7700:241	Principles of Audiometry	3
7700:250	Observation and Clinical Methods	2
7700:271	Language of Signs I	3
7700:321	Communicative Disorders I	4
7700:322	Communicative Disorders II	4
7700:330	Language Disorders	4
7700:340	Audiologic Evaluation	2
7700:450	Assessment of Communicative Disorders	3

*Clinical Option

Add the following Clinical Practicums to the above requirements. Each practicum is taken two times; however, only four practicum credits may be applied towards the B.A.

7700:350	Clinical Practicum: Articulation/Phonology	1
7700:351	Clinical Practicum: Language	1
7700:352	Clinical Practicum: Aural Rehabilitation	1
7700:451	Clinical Practicum: Diagnostic Audiology	1

*Non-Clinical Option

To the University electives and core curriculum, add the following for a total of at least 4 credits:

7700:480	Seminar in Communicative Disorders	2
7700:481	Special Projects: Communicative Disorders	2-4

7700: Communicative Disorders

Bachelor of Arts (Clinical or Non-Clinical Option)* Bachelor of Arts in Communicative Disorders (Clinical or Non-Clinical Option)*

Program Description

The School of Communicative Disorders offers an undergraduate (pre-professional) and graduate program of academic and clinical training in speech-language pathology and audiology. Audiologists are responsible for the non-medical management of hearing loss including testing hearing, selecting and working with hearing aids, counselling individuals concerning hearing loss, providing auditory rehabilitation and making noise measurements. A speech-language pathologist works with children and adults who have problems with communication. A clinician first determines the presence of a problem, then designs a plan for treatment. The speech-language pathologist's therapeutic goal is to help individuals communicate more effectively.

Course work focuses on the evaluation and treatment of the many disordered communication processes. Students gain clinical experience at the undergraduate level, which requires a grade point average of at least 2.50 in major field course work plus grades of "C" or better in prerequisite classes for each clinical practicum. Students wishing to study this field without clinical experience at the undergraduate level may now pursue a non-clinical curricular option. Decisions regarding degree options and graduate study should be made only after consultation with departmental advisers. A master's degree is required for employment as a speech-language pathologist or audiologist.

*Courses in the Department of Biology are required to fulfill the natural sciences requirement (3100:264,265). A B.A. in Communicative Disorders substitutes a core of courses in psychology and related disciplines for the foreign languages (see adviser for specific courses).

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

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

The Bachelor of Arts degree with a major in social work requires completion of two years of a foreign language (Spanish is recommended). The Bachelor of Arts in Social Work degree does not require a language.

Curricula have been developed so that students completing the two-year associate degree programs in Community Services Technology (C & T) and Social Services Technology (Wayne College) with social services emphasis programs can complete either the B.A. or B.A./S.W. four-year curriculum in social work with two additional years of course work. Similarly, curricula have been developed so that students completing the two-year associate degree program in criminal justice technology can complete either the B.A. or B.A./S.W. four-year curriculum in social work in the two additional years' course work.

Certificate programs can be designed in Afro-American Studies, Life-Span Development: Adulthood and Aging, Gender Identity and Roles.

Students wishing to major in social work must file an application with the College of Fine and Applied Arts. In addition, a separate application packet must be filed with the Department of Social Work. A 2.3 grade point average is required for admission to the Department. Once admitted, the student should maintain a 2.5 grade point average in social work major courses.

Bachelor of Arts

- Completion of the General Studies, including 40 credits.

1100:221	Natural Science Biology and	3
3850:100	Introduction to Sociology	4
- Course Prerequisites for the Social Work major:

7750:270	Poverty in the United States	3
7750:276	Introduction to Social Welfare	4
7750:427	Human Behavior and Social Environment for Social Workers I	3
- Social Work major:

7750:401,2,3,4	Social Work Practice I, II, III, IV	12
7750:410	Minority Issues in Social Work Practice	3
7750:421	Field Experience Seminar	2
7750:425	Social Work Ethics	3
7750:430	Human Behavior and Social Environment for Social Workers II	3
7750:440	Social Work Research I	3
7750:441	Social Work Research II	3
7750:445	Social Policy Analysis for Social Workers	3
7750:495	Field Experience: Social Agency (two semesters, four credits each)	8
7750:—	Electives in Social Work	6
- General Electives, including 14 credits in a foreign language.
- A total of 32 credits in department-approved courses in the social and behavioral sciences.

10 credits in the following courses must be completed prior to entry into the social work major:

3250:100	Introduction to Economics	3
3700:100	Government and Politics in the United States	4
3750:100	Introduction to Psychology	3

22 credits in the following areas. These courses should be selected with the adviser and may be taken concurrently with social work major courses. Up to three social work electives, in addition to those required in the major, may count toward these general electives.

Anthropology
Economics
History
Political Science
Psychology
Sociology

(Wayne College and C & T students may count 2040:240 Human Relations and 2040:242 American Urban Society as part of this requirement; students working on certificate program may apply those credits toward this requirements.)

The general studies courses, course prerequisites for the social work major, foreign language, and general electives requirements for the Bachelor of Arts degree in social work are the same requirements that students in the following 2+2 programs must complete:

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

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

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

Bachelor of Arts/Social Work

- General Studies — 40 credits including:

1100:221	Natural Science Biology and	
3850:100	Introduction to Sociology	
- Course Prerequisites for Social Work major:

7750:270	Poverty in the United States	3
7750:276	Introduction to Social Welfare	4
7750:427	Human Behavior and Social Environment for Social Workers I	3
- Social Work major:

7750:401,2,3, 4	Social Work Practice I, II, III, IV	12
7750:410	Minority Issues in Social Work Practice	3
7750:421	Field Experience Seminar (two semesters)	2
7750:425	Social Work Ethics	3
	or	
7750:470	Law for Social Workers	3
7750:430	Human Behavior and Social Environment for Social Workers II	3

7750:440	Social Work Research I †	3
7750:441	Social Work Research II	3
7750:445	Social Policy Analysis for Social Workers	3
7750:495	Field Experience in a Social Agency (two semesters)	8

• General Electives:

A total of 32 credits in department-approved courses in the Social and Behavioral Sciences.

10 credits in the following courses must be completed prior to entry into the social work major.

3250:100	Introduction to Economics	3
3700:100	Government and Politics in the United States	4
3750:100	Introduction to Psychology	3

22 credits in the following areas. These courses should be selected with the adviser and may be taken concurrently with social work major courses. Up to three social work electives, in addition to those required in the major, may count toward these general electives.

Anthropology
Economics
History
Political Science
Psychology
Sociology

(Wayne College and C & T students may count 2040:240 Human Relations and 2040:242 American Urban Society as part of this requirement; students working on certificate programs may apply those credits toward this requirement.)

The general studies courses, course prerequisites for the social work major, and general electives requirements for the Bachelor of Arts/Social Work degree are the same requirements that students in the following 2+2 programs must complete:

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

Bachelor of Arts/Social Work (2+2) with C&T (Criminal Justice Technology)

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

7800: Theatre

Bachelor of Arts

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

7800:100	Experiencing Theatre	3
7800:106	Introduction to Scenic Design	3
7800:107	Introduction to Stage Costume Techniques	3
7800:145	Movement for Actors I	3
7800:151	Voice for the Stage	3
7800:172	Acting I	3
7800:230	Development of Theatre: History of Theatre	3
7800:262	Stage Make-up	3
7800:330	Development of Theatre: Dramatic Literature I	3
7800:365	Basic Stagecraft I	3
7800:371	Directing I	3
7800:430	Development of Theatre: Dramatic Literature II	3
7810:100-400	Production Design/Technical Laboratory	4

• Theatre Electives — 23 credits ‡.

• General Electives — 22 credits ‡.

• All candidates for the B.A. 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. 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.

†3450:111,2; 3470:251,2 are prerequisites for 7750:440 *Social Work Research I*.

‡Consult academic adviser.

Bachelor of Arts in Theatre Arts**(1) 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 adviser.

- General Studies — 39 credits.
- Tag Area of Study — 14 credits.
- Theatre — 63 credits.
Required Theatre Arts Core Courses — 40 credits.
Theatre Electives — 23 credits.
- General Electives — 12 credits.
Minimum Semester Hours Required — 128

(2) Acting

- General Studies — 39 credits.
- Theatre — 73 credits.
- Required Theatre Arts core — 40 credits.
(See Bachelor of Arts listing).
- Required Performance/Movement/Voice Classes — 19 credits.

7800:245	Movement for Actors II	3
7800:273	Acting II	3
7800:350	Advanced Voice for Stage	3
7800:374	Acting III	3
7800:470	Acting IV	3
7810:110-410	Performance Laboratory	4
- Music Courses — 8 credits.

7520:024	Voice (repeat for 8 credits)	2
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- Dance courses:

7900:119	Introduction to Contemporary Dance	2
7900:120	Introduction to Contemporary Dance II	2
	or	
7900:323	Jazz Dance Technique I	2
7900:124	Introduction to Ballet I	2
- Electives (with approval of adviser) — 16 credits.

(3) Design/Technology

- General Studies — 39 credits.
- Required Theatre Arts core — 40 credits.
- Basic preparation:

7800:225	Stage Lighting	3
7800:263	Scene Painting	3
7800:337	Stage Costume History and Design I	3
7800:365	Stage Design	3
- Intermediate Studio courses:

7800:215	Production and Stage Management	3
7800:338	Stage Costume History and Design II	3
7800:355	Stage Highlighting Design	3
7800:436	Styles of Scenic Design	3
- Advanced Studio courses:

7800:266	Basio Stagecraft II	3
7800:307	Advanced Costume Techniques	3
7800:470	Practicum on Design/Technology	1-3
- Production laboratory courses:

7800:470	Production Design/Technology	4
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- Electives (with approval of adviser) — 13-15 credits.
(Recommended electives are: 7100:121; 7100:131; 7100:132; 7100:144; 7100:185; 7100:190; 7100:191)

(4) Musical Theatre

- General Studies — 39 credits.
- Required Theatre Arts core — 40 credits.
- Required Performance Courses — 19 credits.

7800:245	Movement for Actors II	3
7800:273	Acting II	3
7800:374	Acting III	3
7800:421	Musical Theatre Production	3
7810:110-410	Performance Laboratory	4

- Dance:† — 8 credits.

7900:119, 20	Introduction to Contemporary Dance I, II	4
	or	
7900:124	Introduction to Ballet	2
7900:323	Jazz Dance Technique I (for non-majors)	2
7900:324	Tap Technique I	2
- Music:* — 12 credits.

7500:101	Introduction to Musical Theory	2
7500:024	Voice	10
	or	
7520:124	Applied Voice	10
- Electives (with approval of adviser) — 12 credits.

7900: Dance**Bachelor of Fine Arts**

The dance major is designed for the student who wishes to pursue professional training in dance through the Bachelor of Fine Arts degree. Technical, performing and teaching skills are developed in the degree program.

Admission to the program is by *audition only*.

Every student must pass a sophomore jury in ballet, modern, and jazz 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 dance technique every semester they are enrolled.

- General Studies program — 39 credits.
- Required dance courses:

7900:115	Dance as an Art Form	2
7920:116,7	Physical Analysis of Dance I, II	4
7920:122, 222	Ballet Technique I, II	20
7920:229	Contemporary Technique I	6
7920:316,7	Choreography I, II	4
7920:320	Dance Notation	2
7920:322, 422	Ballet Technique III, IV	20
7920:329	Contemporary Dance Technique II	6
7920:361	Learning Theory for Dance	2
7920:362	Instructional Strategies for Dance	2
7920:416	Choreography III	2
7920:417	Choreography IV	2
7920:431	Dance History: Prehistory to 1661	2
7920:433	Dance History: 20th Century	2
7920:432	Dance History: 1661 through Diaghilev Era	2
7920:426,7	Techniques of Teaching Dance I, II	4
- Electives (with approval of adviser) — 8 credits.
- All candidates for the B.F.A. will be required to earn at least five credits of 7910: *Dance Organizations*.

Bachelor of Arts

The dance major is designed for the student who wishes to pursue a more academic degree in dance.

Admission to the degree is by *audition only*.

Every student must pass a sophomore jury in ballet, modern, and jazz 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 dance technique every semester they are enrolled.

- General Studies program and foreign language — 53 credits.
- Required dance courses:

7900:115	Dance as an Art Form	2
7920:116, 7	Physical Analysis of Dance I, II	4
7920:122, 222	Ballet Technique I, II	20
7920:229	Contemporary Technique I	3
7920:316, 7	Choreography I, II	4
7920:320	Dance Notation	2
7920:361	Learning Theory for Dance	2
7920:362	Instructional Strategies for Dance	2
- Choose one of the following:

7920:431	Dance History: Prehistory to 1661	2
7920:433	Dance History: 20th Century	2
7920:432	Dance History: 1661 through Diaghilev Era	2
- Choose a minimum of one from each category as dance electives for a minimum of nine credits

Category A

- | | | |
|----------|--|---|
| 7920:229 | Contemporary Technique I (second semester) | 3 |
| 7920:329 | Contemporary Technique II (may be taken twice) | 3 |

†See School of Dance or School of Music for placement.

*See School of Dance.

Category B			• All candidates for the B.A. will be required to earn at least four credits of 7910: Dance Organizations.		
7900:323	Jazz Styles	2	7910:101	Classical Ballet Ensemble	1
7900:377	Advanced Jazz Styles	2	7910:102	Character Ballet Ensemble	1
Category C			7910:103	Contemporary Dance Ensemble	1
7900:324	Tap Technique I	2	7910:104	Jazz Dance Ensemble	1
7900:378	Tap Technique II	2	7910:105	Musical Comedy Ensemble	1
• Choose one category D, E, or F for a total of four credits:			7910:106	Opera Dance Ensemble	1
Category D			7910:107	Experimental Dance Ensemble	1
7920:416	Choreography III	2	7910:108	Choreographer's Workshop	1
7920:417	Choreography IV	2	7910:109	Ethnic Dance Ensemble	1
Category E*			7910:110	Period Dance Ensemble	1
7920:431	Dance History: Prehistory to 1661	2	7910:111	Touring Ensemble	1
7920:432	Dance History: 1661 - Diaghilev Era	2		Total Dance Curriculum	58
7920:433	Dance History: 20th Century	2		General Electives	17
Category F			<hr/>		
7920:461	Seminar and Field Experience in Dance Education	2	*Dance History course taken for requirement does not fulfill this elective.		
7920:462	Professional Issues in Dance Education	2			

College of Nursing

Elizabeth J. Martin, Ph.D., R.N., F.A.A.N., *Dean*
 V. Ruth Gray, R.N., Ed.D., R.N., *Associate Dean of Graduate Program*
 Elaine F. Nichols, Ed.D., R.N., *Associate Dean of Undergraduate Program*
 Phyllis A. Fitzgerald, Ph.D., R.N., *Assistant Dean of Student Affairs*
 Janne R. Dunham, Ph.D., R.N., *Assistant Dean of 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 and rural community.

The College of Nursing faculty believe that the foci of professional nursing are individuals, families and communities.

The individual is seen as a complex whole whose existence involves patterns, dynamic change, transformation and interdependence. The individual interrelates within the environment in biological, psychological, social, spiritual, cultural and other dimensions. The individual is unique and universal. The individual is a thinking, feeling, interacting, evolving, creating, valuing being.

Families are individuals dynamically connected with each other over time. Family configurations may be traditional or nontraditional.

Communities are groups of people with one or more common characteristics who are in relationship to one another and may or may not interact.

Health is comparative, dynamic, multidimensional and has personal meaning. It includes disease, nondisease, and quality of life. People have the right to participate in decisions affecting and effecting personal health.

Environment includes all living and nonliving dimensions with which the individual, family and community have interrelationships. The dynamic environmental interrelations define and establish rules for health and modes of action.

Nursing is an art and a science. The discipline of nursing is concerned with individual, family and community and their responses to health within the context of the environment. Professional nursing includes the appraisal and the enhancement of health. Personal meanings of health are understood in the nursing situation within the context of familial, societal and cultural meanings. The professional nurse uses knowledge from theories and research in nursing and other disciplines in providing nursing care. The practice of nursing occurs in a variety of settings. The role of the nurse involves the exercise of social and cultural responsibilities, including accountability for professional actions and provision of quality nursing care.

Education is an individualized, lifelong process. Learning is a continual process and includes the individual's interrelations with the environment. Knowledge acquisition, development of critical thinking and self-expression enable the student to respond to clients who have unique human values and cultural heritage. Each nursing student brings attitudes, beliefs, values, feelings, knowledge and experience into the learning environment. These variables influence learning. Learning occurs through continual construction and reconstruction of experiences in relation to environmental influences.

Nursing education at the baccalaureate level synthesizes knowledge from nursing, humanities, and social, cultural, physical and natural sciences to operationalize the nursing process in practice. The student is prepared to function as a nurse generalist in a variety of settings. Faculty and students continually seek to refine the commitment to and understand the relationship between theory and practice. Students are encouraged to become self-directed, collaborative, interdependent and independent. These variables are the foundation for lifelong learning and professional development.

Nursing education at the master's level builds upon baccalaureate nursing preparation and is a foundation for doctoral study. Graduate education provides advanced learning to prepare specialists, educators, and administrators in the practice of nursing. College of Nursing graduate students analyze and use a variety of theoretical formulations and research findings in advanced practice, as well as plan and conduct research with guidance. The students develop expertise through self-direction, peer relations, personal valuing and faculty modeling and facilitation.

REQUIREMENTS

Admission

Five classifications of students will be considered for admission to the college: a) the basic student (entering freshman), b) the registered nurse, c) the licensed practical nurse, d) the postbaccalaureate student and e) the transfer student from other colleges and universities. A transfer student may receive credit for quality work earned in approved colleges. Enrollment of a transfer student is contingent upon availability of University facilities and an assessment of the sufficiency of prior academic work. Transfer course grades shall be taken into account in placing students in rank order for admission purposes.

A registered nurse (RN) who receives preparation in hospital or associate degree programs is evaluated individually. An RN student is expected to meet the same course requirements as the basic student and those of The University of Akron.

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.
- Have a 2.50 grade-point average or higher.
- All grades of transfer work will be combined with those earned at The University of Akron in the computation of a GPA for admission ranking purposes to the College of Nursing.

All applicants will be considered at once and will be selected each spring. All student applicants will be ranked in order from the highest grade-point average (GPA) to 2.50. Having a GPA of 2.50 will not guarantee admission to the college. A student will be notified of provisional admission to the College of Nursing prior to fall scheduling requirements and will be given final approval at the end of spring semester.

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

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

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

Continuation in the Baccalaureate Program

A student must achieve a grade-point average of 2.30 or higher on a 4.00 scale in the nursing major. A student receiving a C- or below in any nursing course will be required to repeat the course. The student may repeat the course only once. Students may not progress into the next course with an incomplete grade in a major nursing course (e.g. 8200:200, 8200:300, etc.)

Students should refer to their Student Manual for other policies and procedures. The manual will be distributed to students during 8200:200. Students should also refer to each course syllabus distributed at the beginning of each semester for course expectations/requirements.

The following policies must be adhered to by all students once they are admitted to the baccalaureate program:

- Obtain a three-year liability insurance policy prior to July 15 and maintain the policy throughout the program.
- If a licensed nurse, provide a copy of valid Ohio nurse's license.
- Complete necessary immunization requirements prior to July 15.
- Complete CPR (cardiopulmonary resuscitation) certification prior to 8200:300 (if registered nurse 8200:305).
- Maintain a current CPR certification throughout the program. Dates must be current through the next academic year.

Evidence of completion of these requirements will be submitted to the records coordinator prior to July 15, otherwise course registration will be closed.

Requirements for Graduation

- Complete all University requirements as listed in **Section 3** of this *Bulletin*.
- Complete a minimum of 133 semester credits for the degree and earn a minimum of 2.30 grade-point average in the nursing major and a 2.00 grade-point average for all collegiate work attempted at The University of Akron.
- Complete all courses required in the *Program 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

Basic Student

Freshman Year

Semester I		Credits
1100:111	English Composition I	4
1100:115	Institutions in the United States*	3
3150:129	Introduction to General, Organic and Biochemistry I	4
3450:—	Math Requirements	4
Options:		
3470:260	Basic Statistics plus any one credit math course or	3
3470:260	Basic Statistics	3
3470:262	Intro. Statistics	2
or		
3470:261	Intro. Statistics I	2
3470:262	Intro. Statistics II (meets both math and statistics requirements)	2
8200:100	Introduction to Nursing	1
Semester II		
1100:—	Physical Education	1
1100:112	English Composition II	4
1100:116	Institutions in the United States*	3
3150:130	Introduction to General, Organic and Biochemistry II	4
3850:100	Introduction to Sociology*	4

Sophomore Year

Semester I		Credits
1100:106	Effective Oral Communication	3
3100:130	Principles of Microbiology	3
3100:208	Anatomy and Physiology	4
3600:101	Introduction to Philosophy or	3
3600:120	Introduction to Ethics or	3
3600:125	Theory and Evidence or	3
3600:170	Introduction to Logic	3
3750:100	Introduction to Psychology	3
Semester II		
3100:105	Introduction to Ecology or	2
1830:201	Man and His Environment or	2
3350:310	Physical and Environmental Geography	3
3100:209	Anatomy and Physiology	4
3100:381	Human Genetics	2
3750:130	Developmental Psychology	4
3850:340	The Family or	4
7400:201	Relational Patterns in Marriage and Family	3
Summer Session		
7400:316	Science of Nutrition	4
8200:200	Nursing Theories and Concepts	5

Junior Year

Semester I		Credits
1100:320	Western Cultural Traditions	4
8200:300	Nursing: Health	10
Semester II		
1100:321	Western Cultural Traditions	4
8200:320	Nursing: Diminished Health I	12

*The six-credit requirement in the social science 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.

Senior Year

Semester I		Credits
1100:33—	World Civilizations	2
8200:400	Nursing: Diminished Health II	12
	Elective	2
Semester II		
1100:33—	World Civilizations	2
8200:420	Nursing: Synthesis	10
	Elective	3

Students may use courses numbered 100 and up as electives. Students planning to fulfill their elective requirements prior to admission to the college may contact the college for assistance in selecting appropriate electives.

The student shall satisfy the course criteria for safe nursing practice before being permitted to participate in clinical learning experiences. The student will be informed of these criteria for safe practice by the instructor.

It is mandatory that the student provide transportation to meet requirements of the nursing courses.

Registered Nurse

(limited to licensed registered nurses)

Freshman Year

Semester I		Credits
1100:111	English Composition I	4
1100:115	Institutions in the United States*	3
3150:129	Introduction to General, Organic and Biochemistry I	4
3450:—	Math Requirements	4
Options:		
3470:260	Basic Statistics plus any one credit math course or	3
3470:260	Basic Statistics	3
3470:262	Intro. Statistics II or	2
3470:261	Intro. Statistics I	2
3470:262	Intro. Statistics II (meets both math and statistics requirements)	2
8200:101	Introduction to Baccalaureate Nursing	1
Semester II		
1100:—	Physical Education (or for student over the age of 24, any other general studies course equalling one credit)	1
1100:112	English Composition II	4
1100:116	Institutions in the United States*	3
3150:130	Introduction to General, Organic and Biochemistry II	4
3850:100	Introduction to Sociology*	4

Sophomore Year

Semester I		Credits
1100:106	Effective Oral Communication	3
3100:130	Principles of Microbiology	3
3100:208	Anatomy and Physiology	4
3600:101	Introduction to Philosophy or	3
3600:120	Introduction to Ethics or	3
3600:125	Theory and Evidence or	3
3600:170	Introduction to Logic	3
3750:100	Introduction to Psychology	3
Semester II		
3100:105	Introduction to Ecology or	2
1830:201	Man and His Environment or	2
3350:310	Physical and Environmental Geography	3
3100:209	Anatomy and Physiology	4
3100:381	Human Genetics	2
3750:230	Developmental Psychology	4
3850:340	The Family or	3
7400:201	Relational Patterns in Marriage and Family	3

Summer Session

8200:305	Nursing Theories, Concepts and Research	6
1100:33—	World Civilizations	2
	Elective	3

*The six-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.

Fall

1100:320	Western Cultural Traditions	4
1100:33-	World Civilizations	2
8200:405	Health Maintenance Nursing Elective	5 2

Spring

1100:321	Western Cultural Traditions	4
8200:415	Diminished Health Nursing Elective	6 2

Fall

8200:420	Nursing: Synthesis** Elective	10 2
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Students may use courses numbered 100 and up as electives. Students planning to fulfill their elective requirements prior to admission to the College of Nursing may contact the College of Nursing for assistance in selecting appropriate electives.

LPN/BSN Sequence**Freshman Year****Semester I**

		Credits
1100:111	English Composition I	4
1100:115	Institutions in the United States	3
3150:129	Introduction to General, Organic and Biochemistry	4
3470:260	Basic Statistics*	3
	or	
3470:261	Introduction to Statistics I	2
8200:101	Introduction to Baccalaureate Nursing†	1
1100:—	Physical Education	1

Semester II

1100:112	English Composition II	4
1100:116	Institutions in the United States	3
3150:130	Introduction to General, Organic, and Biochemistry	4
3470:262	Introduction to Statistics II	2
3850:100	Introduction to Sociology	4

Sophomore Year**Semester I**

3100:208	Anatomy and Physiology	4
3100:130	Microbiology	3
3750:100	Introduction to Psychology	3
1100:106	Effective Oral Communication	3
3600:101	Introduction to Philosophy	3
	or	
3600:120	Introduction to Ethics	3
	or	
3600:125	Theory and Evidence	3
	or	
3600:170	Introduction to Logic	3

Semester II

3100:209	Anatomy and Physiology	4
3750:230	Developmental Psychology	4
3100:381	Human Genetics	2
3100:105	Introduction to Ecology	2
	or	
1830:201	Man and Environment	2
	or	
3350:310	Physical and Environmental Geography	3
3850:340	The Family	3
	or	
7400:201	Marriage and Family	3

Summer

8200:305	Nursing Theories, Concepts, and Research†	6
7400:316	Science of Nutrition Competency Testing, NLN Mobility Profile Scores to establish credit for prior learning	

- Credit for prior learning is as follows:

8200:300	Nursing: Health Maximum of 2 credits for prior learning can be earned out of the required 10 credits.
8200:320	Nursing: Diminished Health I Maximum of 3 credits for prior learning can be earned out of the required 12 credits.
8200:400	Nursing: Diminished Health II Maximum of 3 credits for prior learning can be earned out of the required 12 credits.

Junior Year**Semester I**

8200:300	Nursing: Health	8-10
8200:300	CPL***	0-2
1100:320	Western Cultural Traditions	4

Semester II

8200:320	Nursing: Diminished Health I	9-12
8200:320	CPL***	0-3
1100:321	Western Cultural Traditions	4

Senior Year**Semester I**

8200:400	Nursing: Diminished Health II	9-12
8200:400	CPL***	0-3
1100:33-	World Civilizations	2
8200:330	Pharmacology	3
8200:330	CPL***	
	or	
	Elective	2

Semester II

8200:420	Nursing: Synthesis	10
1100:33-	World Civilizations	2
	Elective	1-2

Agencies

The agencies cooperating in providing the laboratory experiences in the courses in nursing are:

Akron City Hospital
Akron General Medical Center
Akron Health Department
Akron Public Schools: Lincoln
Akron Senior Resource Center
Aultman Hospital
Barberton Citizens Hospital
Barberton Schools
Barrett School
Brecksville Veterans Administration
Canton Schools
Center for Nursing
Channelwood
Children's Hospital Medical Center
Cuyahoga Falls General Hospital
Fallsview Psychiatric Hospital
Henry Center for Child Care and Learning
Margaret Park School
Planned Parenthood
Red Cross
Rockynol Retirement Center
St. Edward's Home
St. Thomas Medical Center
Edwin Shaw Hospital
Margaret B. Shipley Child Health Care
Stow-Glen Retirement Village
Summit County Health Department
University Nursery Center
Visiting Nurse Service

All health agencies are accredited by the appropriate group.

*Need to take additional one credit math course or 3470:262.

**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	12

†RN/BSN courses substituted for basic BSN courses.

***CPL: Credit for Prior Learning applied to laboratory and clinical hours. Pharmacology CPL applied to theory hours.

Northeastern Ohio Universities College of Medicine

HISTORY AND PURPOSE OF THE COLLEGE OF MEDICINE

The Northeastern Ohio Universities College of Medicine (NEOUCOM) was created by an act of the 100th General Assembly of Ohio and was officially established as a 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. NEOUCOM was first accredited by Liaison Committee on Medical Education in May 1981, and in 1989 received full re-accreditation from the LCME for a seven-year period.

ADMISSION

High school seniors and recent high school graduates, having demonstrated appropriate academic competence and motivation toward a career in medicine, will be considered for admission into year one of the program. These students, who have not attended college, should write to the Office of Admissions, The University of Akron, Akron, OH 44325 for application forms. Complete application indicating interest in the Phase I, BS/MD Program and return prior to December 31 of the student's senior year.

Applicants with a more traditional background may be considered by NEOUCOM for admission to the MD Program (Phase II). Students should contact the College of Medicine, Rootstown, OH 44272, for further information. Criteria for admission to the MD Program include demonstrated proficiency in appropriate coursework, scores from the Medical College Admission Test (MCAT) taken at least one year prior to anticipated fall enrollment date, as well as a commitment to the field of medicine and extracurricular and work activities.

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 consortium university campuses. The course work during this period focuses chiefly on studies in the humanities, social sciences, and all 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 NEOUCOM 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 may 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.

B.S./M.D. students meeting requirements for Certificate in Gerontology may complete Practicum/Internship and electives from courses available from the Institute for Life-Span Development and Gerontology and the Office of Geriatric Medicine, NEOUCOM.

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 NEOUCOM campus is located on S.R. 44 in Rootstown just south of the I-76 intersection, across from the Rootstown High School.

B.S./M.D. HONORS TRACK

Students accepted into the NEOUCOM B.S./M.D. program are also eligible to enroll in the University Honors Program. This opportunity will encourage capable students to broaden their intellectual horizons, to strive for academic excellence, and to develop respect and appreciation for superior intellectual achievement.

The requirements for the B.S./M.D. program have been adapted to meet the intent and spirit of the Honors Program while preserving the special nature of this premedical curriculum. The B.S./M.D. Program leads to the Bachelor of Science with a divisional major in the natural sciences. All undergraduate requirements for this program are listed below.

The B.S./M.D. Liaison Officer or designee will serve as the Honors Preceptor for the B.S./M.D. students. Other faculty will become involved as each student plans the honors project. Requirements for retention in the Honors Program remain the same.

Group Requirements:

Group I: 15 hours

Credits

- Required: Seminar:

1880:310	Humanities in Medical Education	3
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- Remaining 12 credits from among the following:

Classics (3200)		
Greek (3210)		
Latin (3220)		
English (3300)		
History (3400)		
Philosophy (3600)		
Western Cultural Traditions (1100:320,321)		
Eastern Civilizations (1100:330,335)		

Group II: 13 hours

- Required:

1100:105	Introduction to Public Speaking	3
	or	
1100:106	Effective Oral Communication	3
1100:111	English Composition I — Honors	4
1100:112	English Composition II — Honors	4
	or	
	Other approved writing class	3-4
- Remaining credits from among the following:

Modern Languages (3520-3580 — 300 level or above)		
Art (7100)		
Music (7500)		
Applied Music (7520)		
Theatre Arts and Dance (7800)		
Total		13

*See BS/MD program, Section 4 of this Bulletin for a description of the requirements for the Bachelor of Science part of this program.

Group III: 9 hours

- Required:

3750:100	Introduction to Psychology	3
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- Remaining six credits from among the following:

	Economics (3250)	
	Geography (3350)	
	Political Science (3700)	
	Psychology (3750)	
	Sociology (3850)	
	Anthropology (3870)	

3100:290	Health Care Delivery Systems	1
3100:291	Health Care Delivery Systems	1
1880:201	Medical Seminar and Practicum	3

Group IV: 68 hours (Includes requirement for Natural Sciences Divisional major).

- Recommended:

Mathematics		
3450:211	Calculus for Life Sciences	3
3450:212	Calculus for Life Sciences	3
3470:261	Introduction to Statistics	2
3470:253	Hypothesis Testing	1
3470:255	Regression	1
Biology		
3100:111	Principles of Biology	4
3100:112	Principles of Biology	4
3100:211	Genetics	3
3100:466	Developmental Anatomy	4
3100:467	Developmental Anatomy	4
3100:365	Histology	3
	(plus 5 additional biology credits as electives — may be transferred from NEOUCOM)	
Chemistry		
3150:132	Principles of Chemistry I	4
3150:133	Principles of Chemistry II	3
3150:134	Qualitative Analysis	2
3150:263	Organic Chemistry I	3
3150:264	Organic Chemistry II	3
3150:265	Organic Chemistry Lab	2
3150:401	Biochemistry I	3
3150:402	Biochemistry II	3
Physics		
3650:261	Physics for Life Sciences	4
3650:262	Physics for Life Sciences	4

Additional Honors Requirements:

Colloquia:		
1870:250	Honors Colloquium — Humanities	2
1870:360	Honors Colloquium — Social Sciences	2

Honors Project: 3
 A major research paper will be required. A University of Akron faculty member shall direct the paper. The work must be completed prior to the completion of the undergraduate degree. In any of the following options, each student would be expected to file the formal paper with the department of choice and the Honors Council in compliance with the procedures established by the Honors Council.

A student may complete a research laboratory project in biology during the first summer of medical school. A formal paper, directed by a University of Akron faculty member, will be submitted as partial completion of the honors requirements.

or

A student may complete a major paper as part of the Human Values in Medicine curriculum at NEOUCOM and transfer up to three hours of credit back to The University of Akron. A University of Akron faculty member should act as codirector of the project.

or

A student may register for three hours of regular honors project hours in any department currently offering such credit. The student would be expected to complete a major research paper which in some way relates medicine to the discipline of the department.

- B.S./M.D. Honor students will be encouraged to enroll in honors sections whenever possible but honors work in the divisional major will not be required. In the exceptional case, a nonhonors section of English Composition may be approved.
- Credits earned in excess of the minimum required for any Group I-III may be applied toward the free electives requirement.
- Students who withdraw from the B.S./M.D. program who are otherwise eligible to continue in the Honors Program may remain in the Honors Program under current requirements.
- Students who withdraw or are no longer eligible to remain in the Honors Program may continue in the B.S./M.D. program provided they meet current B.S./M.D. requirements. Their General Studies requirement will be met by satisfying B.S./M.D. Honors Groups I through III.

Specific B.S./M.D. Program Requirements:

2780:290	CPR	2
3100:190	Health Care Delivery Systems	1
3100:191	Health Care Delivery Systems	1

University Honors Program

Robert M. Holland, Ph.D., *Master*

INTRODUCTION

The University Honors Program recognizes and supports the highly motivated and achievement-oriented student in all major programs. To help the participant discover potential capabilities and sense of direction, this unique learning experience emphasizes individualized curricula and a close student-faculty relationship.

ADMISSION

The requirements for admission to the University Honors Program are as follows:

- A high school grade-point average of 3.50 or better.
- Scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT) which place the applicant in the 90th percentile or higher of freshman college norms in the field of interest.
- An interview with a member of the University Honors Council.
- An Honors Program application essay.
- Enrollment in a baccalaureate degree program.

For information on the Honors Program and the deadline for applications call (216) 972-7966 or the Office of Admissions (216) 972-7100.

PROGRAM

General Studies

An honors student is not required to complete the General Studies except for physical education. Instead, each student completes an individualized distribution requirement which includes a balanced amount of diversified course work in the humanities, the social sciences and the natural sciences. The major objective of this requirement is to expose the student to a broad spectrum of knowledge which is both reasonable and appropriate to the student's major field. The student and preceptor plan the components of this requirement which are subject to the approval of the Honors Council.

Colloquia

Beginning at the sophomore level, an honors student attends one colloquium per year: one in the humanities; another in the social sciences; the third in the natural sciences. These one-semester, two-credit lecture and discussion sessions are interdisciplinary in scope. They provide an opportunity for all honors students to meet and explore the breadth and the interrelations of academic studies. The intent of these colloquia is to provide significant insights, especially in areas which lie outside the student's major field.

Major Requirements

An honors student completes all requirements for a departmental or divisional major. If honors work exists in the major department, at least one of the contributing honors courses must be completed.

A faculty preceptor serves as a special adviser for the student in each department. The preceptor assists in the development of the student's major program, the selection of courses which are appropriate for the distribution requirement and in all other aspects of academic and professional planning.

Senior Honors Project

The honors student is expected to complete a senior honors thesis, an original or creative work which reflects the student's area of interest in the major field. This senior project may well become the basis for a future master's thesis in graduate school. Study abroad or field experience may be recognized as part of the project.

The citation "University Scholar" will appear on the diplomas and the transcripts of the students who complete the University Honors Program. At commencement exercises, they will be properly recognized as University Scholars.

OTHER FEATURES

Scholarships

An honors student who maintains a minimum 3.40 cumulative grade-point average is eligible for substantial honors scholarships which are renewable annually.

Acceleration

To meet degree requirements, an honors student may use credits awarded for satisfactory achievement on Advanced Placement high school tests (AP), the College Level Examination Program (CLEP) and/or other approved placement procedures — including bypassed credits — to a maximum of 20 credits. Credits may also be earned through "credit by examination" when approved by the department in which the examination is to be administered.

Open Classroom

An honors student may attend undergraduate classes or lectures for which the student is not formally enrolled. Free access is available.

Access to Graduate Courses

With the permission of the student's preceptor and the instructor, an honors student may be enrolled in graduate courses for either undergraduate or graduate credit. This provision applies especially to graduate courses which may be of immediate benefit to the completion of the senior honors project and/or the specific requirements for a given research paper.

Credit/Noncredit Option

Upon completion of one-half of all degree requirements, an honors student may enroll in one course per semester on a credit/noncredit basis. All elective credits thus earned are not considered in calculating grade-point average, but count as credits completed toward graduation requirements.

University Honors Council

Seven faculty members representing 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

Non-traditional and part-time students properly enrolled for at least six credit hours per semester may apply for admission to the Program when they have completed, or will have completed by the end of the current semester, at least sixteen credit hours of course-work, provided they shall have achieved a GPA of 3.40 or better in courses satisfactory to the Distinguished Student Council.

Graduating high school seniors enrolling in the Community and Technical College may apply for admission to the Distinguished Student Program at the time they complete enrollment and formalize a course of study contract with the College.

Admission of non-traditional or part-time students to the Program will be governed by their current academic standing, submission of a satisfactory essay describing their academic goals and their understanding of the purpose and standards of the Program and the recommendation of at least two Faculty members of the Council who have interviewed the applicant.

Admission of recent high school graduates to the program shall be based upon their high school academic records, the recommendation of one or more of their high school teachers, satisfactory essay explaining their interest in pursuing a degree in this College and the recommendation of at least two members of the Distinguished Student Committee who have interviewed the students.

PROGRAM

A distinguished student's program of study shall consist of, for the most part, courses within the major. The *Distinguished Student Colloquium* (taken the first semester of the second year) and the *Honors Colloquium* (taken the second semester of the second year) shall provide an opportunity for all distinguished students to meet and explore the breadth and interrelationships of the various academic disciplines. These one-semester, two-credit colloquia shall be suitably scheduled over the span of the academic year. The coordinator, with the assistance of the Distinguished Student Council, shall determine the sequence in which these colloquia shall be offered and also approve the course content of the *Distinguished Student Colloquia*. Distinguished students may be permitted to attend classes or lectures within the Community and Technical College for which they are not formally enrolled.

The designation *Distinguished Student* will appear on the academic record of all students who have met all graduation requirements. At commencement exercises, the students will be properly recognized as such.

Graduation Requirements

The distinguished student shall earn the minimum total credits required for a particular degree and for a program major. Progress toward completing the degree requirements may be accelerated by credit by examination, bypassed credit and credit awarded for satisfactory achievement on high school advanced placement examinations in accordance with University policies.

Colloquia

Beginning at the sophomore level, all distinguished students attend one colloquium per semester. The first will be in the fall semester and be restricted to distinguished students. The second will be in the spring semester and will be offered through the University Honors Program if possible. These one-semester, two-credit lecture and discussion sessions are interdisciplinary in scope. They provide an opportunity for students to meet and explore the breadth and the 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

To remain in the program a student must maintain a GPA of at least 3.40. A student whose GPA falls below 3.40 will be placed on probation (i.e. all scholarship monies will be withheld) until the end of that semester in which the GPA has been raised to 3.40 or better. A student whose grades fall below 3.40 for two semesters will be dropped from the Program. A student transferring to a baccalaureate college will no longer qualify for the DSC but may apply for admission to the University Honors Program.

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.



SECTION Five

Minor areas of study

F A C T S

Recent speakers on campus:

- Former U.S. Attorney General
Ramsey Clark
- ABC News Correspondent
Pierre Salinger
- Former CIA Director William Colby
- Former Supreme Court Justice
Arthur Goldberg
- White House Chief of Staff
John Sununu

Minor Areas of Study

REQUIREMENTS

The University of Akron has approved minor fields of study that may be placed on a student's record when all requirements have been completed.

The following rules apply to all minors:

- The student must complete at least 18 credits.
- At least six of the 18 credits must be at the 300/400 level except where the department does not offer 300/400-level courses.
- A minimum grade-point average of 2.00 in each minor is required.
- A minor may be designated at any time 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 a baccalaureate degree and only on application.
- Courses for a minor may not be taken credit/noncredit. All credits must be earned (bypassed credit may not be used).
- The student must earn at least nine credits at The University of Akron in courses approved by the faculty granting the minor. Written permission of the dean and the head of the department which grants the minor is required for any exception.

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

		Credits
3870:150	Cultural Anthropology	4
3870:151	Evolution of Man and Culture	3
3870:356	Archeology of the Americas	3
3870:461	Language and Culture	3

- A minimum of six additional credits of anthropology courses.
- Nineteen total credits are required.

Art

Art History

7100:100	Survey of History of Art I	4
7100:101	Survey of History of Art II	4
7100:300	Art since 1945	3
7100:302	Art in Europe during the 17th and 18th Centuries	3
7100:303	Renaissance Art in Italy	3
7100:304	Art in Europe During the 19th Century	3
7100:400	Art in the U.S. before World War II	3
7100:401	Special Topics in History of Art	3
7100:405	History of Art Symposium	3
7100:498	Special Problems in History of Art	1-3

Art

- Core need not be completed.
- Prerequisites must be honored.
- Student may complete any department courses except 7100:191.

Ceramics

7100:254	Introduction to Ceramics	3
7100:354	Ceramics II	3
7100:454	Advanced Ceramics**	3

†All programs are listed in alphabetical order.

**May be repeated for a total of 15 credits.

Commercial Photography

2240:110	Multi-Image Production	4
2240:122	Introduction to Commercial Photography	4
2240:210	Portrait/Fashion Photography	4
2240:224	Illustration/Advertising Photography	4
2240:250	Advanced Commercial Photography	4
7100:275	Introduction to Photography	3

Computer Imaging

- Requirements: Five courses in Computer Art and one of the following:

7100:100	History of Art	4
7100:105	Understanding Art	3
7100:401	History of Graphic Design and portfolio review prior to the third computer art course.	1-3

Crafts

- Prerequisites must be honored.
- Students must complete courses in two of these three areas: ceramics, metal-smithing/enameling or weaving.

7100:254	Introduction to Ceramics	3
7100:266	Introduction to Metalsmithing	3
7100:268	Color in Metals	3
7100:293	Introduction to Fiber Arts	3
7100:354	Ceramics II	3
7100:366	Metalsmithing II	3
7100:368	Color in Metals II	3
7100:393	Weaving II	3
7100:454	Advanced Ceramics**	3
7100:466	Advanced Metalsmithing	3

Drawing

7100:131	Introduction to Drawing	3
7100:231	Drawing II	3
7100:232	Instrument Drawing	3
7100:233	Life Drawing	3
7100:283	Drawing Techniques	3
7100:331	Drawing III	3
7100:333	Advanced Life Drawing	3
7100:431	Drawing IV	3
7100:484	Illustration	3
7100:485	Advanced Illustration	3

Graphic Design

7100:184	Introduction to Graphic Design	3
7100:283	Drawing Techniques	3
7100:286	Commercial Design Theory	3
7100:288	Letterform and Typography	3
7100:380	Graphic Video	3
7100:387	Advertising Layout Design	3
7100:388	Advertising Production Design	3
7100:389	Corporate Identity	3
7100:480	Advanced Graphic Design	3
7100:484	Illustration	3
7100:485	Advanced Illustration	3
7100:486	Packaging Design	3
7100:488	Publication Design	3

Illustration

7100:283	Drawing Techniques	3
7100:333	Advanced Life Drawing	3
7100:480	Advanced Graphic Design/Illustration Portfolio	3
7100:484	Illustration	3
7100:485	Advanced Illustration	3

Metalsmithing

7100:266	Introduction to Metalsmithing	3
7100:268	Color in Metal	3
7100:366	Metalsmithing II	3
7100:368	Color in Metals II	3
7100:466	Advanced Metalsmithing	3

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

2240:122	Introduction to Commercial Photography	3
7100:275	Introduction to Photography	3
7100:375	Photography II	3
7100:376	Photographics	3
7100:475	Advanced Photography	3

**May be repeated for a total of 15 credits.

*Must be taken in a medium taken previously at the introductory level. May be repeated for a total of nine credits but limited to a maximum of three credits in any of the three media.

***Must be taken in a medium taken previously in Painting II. May be repeated for a total of nine credits.

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
	or	
7100:266	Introduction to Metalsmithing	3
7100:321	Figurative Sculpture	3
7100:322	Sculpture II	3
7100:422	Advanced Sculpture	3

Biology

• Total credits required for a minor in biology: 23-24.

3100:111,2	Principles of Biology	8
3100:211	General Genetics	3
3100:217	General Ecology	3
3100:311	Cell Biology	3
	or	
3100:130	Principles of Microbiology	3
3100:316	Evolutionary Biology	3
3100:---	A 300/400-level course approved by department head	—

Business Administration

6200:201,2	Accounting I, II	8
6400:320	Legal Environment	4
6400:371	Business Finance	3
6500:301	Management Principles and Concepts	3
6500:321,2	Quantitative Business Analysis I, II	6
6500:323	Computer Applications for Business	3
6600:300	Marketing Principles	3

Business Management Technology

2040:247	Survey of Basic Economics	3
2420:101	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:---	Elective	3
Elective:		
2420:170	Business Mathematics	3
	or	
2420:212	Basic Accounting II	3
	or	
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:

3150:132,3	Principles of Chemistry I, II	7
3150:263,4	Organic Chemistry Lecture I, II	6
	or	
3150:132,3	Principles of Chemistry I, II	7
3150:201,2	Organic Chemistry and Biochemistry I, II	8

• An additional six credits from 300/400-level courses. For example, a pre-med or biology student might take 3150:401,2 *Biochemistry* (three credits each). An engineer or physics major might select 3150:313,4 *Physical Chemistry* (three credits each). Analytical or instrumental courses might be attractive to others.

• Medical technology students automatically have a chemistry minor.

• Chemical engineering majors also fulfill the requirements for a minor in chemistry.

• 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
3200:313/14	Archaeology of Greece and Rome	6
	or	
3200:361/2	Literature of Greece and Rome	6
3210:303/4	Advanced Greek	6
	or	
3220:303/4	Advanced Latin	6
	Electives in Classics	6

• It is strongly recommended that a minor in classics take at least three credits of 3400:304,5,6,7 *Survey in Ancient History*.

Classical Civilization

3200:189	Mythology	3
3200:304,5,6,7	Ancient History (select one)	3
3200:313/14	Archaeology of Greece and Rome	6
3200:361,2	Literature of Greece and Rome	6
	Electives in Classics	3

• It is strongly recommended that a minor in classical civilization fulfill the language requirement by taking 3220:121,2,223,4 or 3210:121,2,223,4.

Communicative Disorders

• Required core courses:

7700:110	Introduction to Disorders of Communication	3
7700:120	Introduction to Audiology/Aural Rehabilitation	3
7700:130	Bases and Structure of Languages	3
7700:211	Introduction to Speech Science	2
7700:430	Aspects of Normal Language Development	3

• Select at least four hours from the following:

7700:460	Speech-Language Hearing Disorders in the Public Schools	2
7700:480	Seminar in Communicative Disorders	2
7700:481	Special Projects: Communicative Disorders	1-3
7700:483	Communication Disorders: Geriatric Population	3

Community Services Technology

2040:240	Human Relations	3
2260:100	Introduction to Community Services	3
2260:150	Introduction to Gerontological Services	3
2260:260	Alcohol Use and Abuse	3
2260:240	Drug Use and Abuse	3
2260:278	Techniques of Community Work	4

Computer Programming Technology

2440:120	Computer and Software Fundamentals	2
2440:121	Introduction to Programming Logic	2
2440:131	Introduction to Programming	2
2440:133	Structured COBOL	2
2440:234	Advanced COBOL Programming	3
2440:241	Systems Analysis and Design	3
2440:239	RPG II	2
2440:	Electives	3-4

Criminal Justice Technology

• Core courses:

2220:100	Introduction to Criminal Justice	3
2220:102	Criminal Law for Police	3
2220:104	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	6
2250:260	Administration and Supervision: Public Service	3

• Additional courses for corrections area of concentration:

3850:100	Introduction to Sociology	3
3850:330	Criminology	3
3850:431	Corrections	3
	or	
3850:432	Probation and Parole	3

• Additional courses for security area of concentration:

2220:101	Introduction to Security	4
2230:104	Fire Investigation Methods	3
2220:290	Special Topics in Criminal Justice	6

Dance

7900:115	Dance as an Art Form	2
7900:119*	Introduction to Contemporary Dance I	2
7900:120*	Introduction to Contemporary Dance II	2
7900:124*	Introduction to Ballet I	2
7900:125*	Introduction to Ballet II	2
7900:224*	Fundamental Ballet Technique	3
	or	
7900:219*	Introduction to Contemporary Dance III	2
7900:323*	Jazz Dance Technique I	2
	or	
7900:324*	Tap Technique I	2
	Choose one (total of 2 credits):	
7920:431	Dance History: Prehistory to 1661	2
7920:432	Dance History: 1661 through Diaghilev Era	2
7920:433	Dance History: Twentieth Century	2
	Choose one (total of 2 credits):	
7920:426	Techniques of Teaching Dance I	2
7920:320	Dance Notation#	2
7920:316	Choreography I	2

*See school director for level placement.

#By advisement only.

Economics

- One of the following:

3250:201,2	Principles of Economics	6
3250:244	Introduction to Economics Analysis	3
- One of the following:

3250:400	Intermediate Macroeconomics	3
3250:410	Intermediate Microeconomics	3
- Electives in Economics (9-12)

Labor Economics

- 3250:410 Intermediate Microeconomics 3
- One of the following:

3250:201,2	Principles of Economics	6
3250:244	Introduction to Economics Analysis	3
- Choose at least two of the following:

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 (3-6)

English**English****English Literature****American Literature****Professional Writing**

- | | | |
|------------|----------------------------|---|
| 3300:390,1 | Professional Writing I, II | 6 |
|------------|----------------------------|---|
- One from the following:

3300:376	Legal Writing	3
3300:489	Management Reports	3
3300:489	Science 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
3300:389	Advanced Script 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 Hazards Recognition	3
2230:205	Fire Detection and Suppression 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**

3350:310	Physical and Environmental Geography	3
3350:320	Economic Geography	3
3350:330	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 course work as follows:

3350:385	Planning Seminar	1
3350:433	Urban, Regional and Resource Plan	3
3350:495	Soil and Water Field Studies	3

At least two courses (six credits) from the following:

3350:335	Recreation Resource Planning	3
3350:422	Transportation System Planning	3
3350:428	Industrial and Commercial Site Selection	3
3350:436	Urban Land Use Analysis	3

At least two courses (six credits) from the following:

3350:340	Cartography	3
3350:405	Geographic Information Systems	3
3350:447	Introduction to Remote Sensing	3
3350:483	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
3350:442	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

At least one course (three credits) from:

3350:481	Geographic Research Methods	3
3350:483	Spatial Analysis	3
3350:496	Field Research Methods	3

History

- Twelve of the 18 credits must be at the upper-division level (300/400). A combination of courses in United States and non-United States history is required.
- A student may work primarily in United States history, European, Medieval, Latin American and the like, provided in both cases there is some combination or distribution between United States and non-United States history.

Home Economics and Family Ecology**Apparel Design and Construction**

7400:121	Textiles	3
7400:123	Clothing Construction	3
7400:305	Advanced Construction & Tailoring	3
7400:311	Contemporary Needle Arts	3
7400:449	Fat Pattern Design	3
7400:---	Elective in Clothing and Textiles Area	3

Fashion

7400:121	Textiles	3
7400:317	Historic Costume	3
7400:331	History of Textiles and Furnishings	3
7400:339	The Fashion Industry	3
7400:419	Clothing Communication	3
7400:---	Elective in Clothing and Textiles Area	3

Clinical Nutrition

7400:133	Nutrition Fundamentals	3
7400:316	Science of Nutrition*	4
7400:328	Introduction to Nutrition in Medical Science	4
7400:424	Nutrition in the Life Cycle	3
7400:428	Nutrition in Medical Sciences	5
7400:488	Practicum in Dietetics	1-3

Community Nutrition

7400:133	Nutrition Fundamentals	3
7400:316	Science of Nutrition*	4
7400:380	Introduction to Community Nutrition	1
7400:424	Nutrition in the Life Cycle	3
7400:480	Community Nutrition I	3
7400:482	Community Nutrition II	3
7400:488	Practicum in Dietetics	1-3

Consumer Services Minor

(Prerequisites must be honored.)

7400:301	Consumer Education	3
7400:302	Consumers of Services	3
7400:303	Children as Consumers	3
7400:406	Family Financial Management	3
7400:422	Family Resource Management	3
7400:455	Public Policy and the American Family	3

*Prerequisites required.

Food Systems Administration

2280:236	Food and Beverage Control	3
6500:341	Personnel Management*	3
7400:133	Nutrition Fundamentals	3
7400:245	Food Theory and Applications I	3
7400:310	Food Systems Management I	5
7400:315	Food Systems Management II, Clinical	2
7400:413	Food Systems Management	3

Food Science

7400:245	Food Theory and Application I	3
7400:246	Food Theory and Application II	3
7400:403	Advanced Food Preparation	3
7400:420	Experimental Foods	3
The remaining six credits may be selected from the following:		
7400:470	The Food Industry: Analysis and Field Study	3
7400:474	Cultural Dimensions of Food	3
7400:475	Analysis of Foods	3
7400:476	Development in Food Science	3
7400:485	Seminar (Food Science related)	3

Family Development

(Prerequisites must be honored.)

7400:201	Relational Patterns in Marriage and Family	3
7400:265	Child Development	3
The remaining 12 credits may be selected from the following:		
7400:255	Fatherhood: The Parent Role	2
7400:360	Parent-Child Relations*	2
7400:362	Family Life Management	3
7400:390	Family Relationships in Middle and Later Years	2
7400:401	Family-Life Patterns in Economically Deprived Homes	2
7400:404	Adolescence in the Family Context*	3
7400:440	Family Crisis	3
7400:442	Human Sexuality*	3
7400:445	Public Policy and the American Family	3
7400:496	Parenting Skills*	3

Child Development

(Prerequisites must be honored.)

7400:201	Relational Patterns in Marriage and Family	3
7400:265	Child Development	3
The remaining 12 credits may be selected from the following:		
7400:132	Early Childhood Nutrition	2
7400:255	Fatherhood: The Parental Role	2
7400:270	Theory and Guidance of Play	3
7400:280	Creative Activities for Pre-kindergarten Children	4
7400:290	Administration of Child-Care Centers*	3
7400:360	Parent-Child Relations*	3
7400:401	Family-Life Patterns in Economically Deprived Homes	2
7400:404	Adolescents in the Family Context*	3
7400:460	Organization and Supervision of Child-Care Centers	3
7400:496	Parenting Skills*	3

Interpreting for the Deaf

2210:100	Introduction to Interpreting for the Deaf	4
2210:104	Sign Language, Gesture and Mime	3
2210:110	Specialized Interpreting I	3
2210:150	Handicapped Service Practicum (must be repeated to eight credits)	1-4
2210:200	Reverse Interpreting	3
2210:230	Specialized Interpreting II	3
7700:100	Manual Communication I	5
7700:120	Introduction to Audiology/Aural Rehabilitation	3
7700:150	Manual Communication II	4
7700:200	Manual Communication III	4
7700:222	Introduction to Deaf Culture and Its Origin	2
7700:271	Language of Signs I	3

Library

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

2200:100	Introduction to Library Technology	3
2200:201	Cataloging, Classifying and Processing Materials	3
2200:202	Organizing and Operating Library/Media Centers	3
2200:203	Materials Selection	2
2200:204	Reference Procedure	3
2200:205	Information Retrieval Systems in Library Technology	3
2200:297	Independent Study (Student pursues a project in major area of study utilizing library skills.)	1

Marketing and Sales Technology

2520:103	Principles of Advertising	3
2520:106	Visual Promotion	3
2520:202	Retailing Fundamentals	3
2520:211	Math of Retail Distribution	3
2520:212	Principles of Sales	3
and any TWO of the following:		
2520:215	Advertising Projects	2
2520:217	Merchandising Projects	2
2520:219	Sales Projects	2
2520:221	AAF Ad Campaign I	2
2520:222	AAF Ad Campaign II	2
2520:234	Humor in Advertising	2

- To be awarded only at the time a student receives a baccalaureate degree.

Mathematical Sciences

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

Mathematics/Applied Mathematics

3450:221,2,3	Analytic Geometry-Calculus I, II, III	12
3450:312	Linear Algebra	3

- Approved 300/400-level mathematical sciences electives (at least six credits in 3450 courses which may include 3450:235 Differential Equations.) 9

Statistics

3450:221,2	Analytic Geometry-Calculus I, II	8
3450:312	Linear Algebra	3
3450:461	Applied Statistics	4
3450:463	Experimental Design I	4

- Approved 400-level statistics electives. 6

Computer Science

3450:208	Introduction to Discrete Mathematics	4
3450:221	Analytic Geometry-Calculus I or Concepts of Calculus I	4
3460:209	Introduction to Computer Science	4
3460:210	Computer Science II	3
3460:316	Data Structures	3
3460:306	Assembly Language Programming	3

- Approved 300/400-level computer science electives. 6

Military Studies

Aerospace Studies

1500:113	First Year Aerospace Studies*	1.5
1500:114	First Year Aerospace Studies*	1.5
1500:253	Second Year Aerospace Studies*	1.5
1500:254	Second Year Aerospace Studies*	1.5
1500:303	Third Year Aerospace Studies	3
1500:304	Third Year Aerospace Studies	3
1500:453	Fourth Year Aerospace Studies	3
1500:454	Fourth Year Aerospace Studies	3

Military Science

1600:100	Introduction to Military Science I*	2
1600:101	Introduction to Military Science II*	2
1600:200	Basic Military Leadership	2
1600:201	Small Unit Operations	2
1600:300	Advanced Leadership I	3
1600:301	Advanced Leadership II	3
1600:400	Military Management I	3
1600:401	Military Management II	3

Modern Languages

French, German, Spanish, or Italian

- A minimum of 18 credits is required.
- The student must have at least 12 credits beyond the second year excluding courses which are not counted for credit toward a major.

*Prerequisites required.

*These courses can be taken as "either/or" for core curriculum. Place credit can be given between the two programs.

Music

Jazz Studies

7500:210	Jazz Improvisation I	2
7500:211	Jazz Improvisation II	2
7500:212	Music Industry Survey	2
7500:307	Technique of State Band Performance and Direction	2
7500:308	Jazz History and Literature	3
7500:497	Elective in Jazz**	2
7510:115	Jazz Ensemble	4
7520:---	Applied Jazz Study	8

Music

7500:151	Theory I	3
7500:152	Theory II	3
7500:301	Music Appreciation: Music before 1800	2
7500:302	Music Appreciation: Nineteenth and Twentieth Centuries	2
7520:	Applied Music†	8
7510:	Ensemble	4
7510:	Music Elective (Selected from any 7500 course at 300 or 400 level)	2

Office Administration

- Core:
 - 2540:150.1, or 253 Beginning, Intermediate, or Advanced Keyboarding 6
 - 2540:125 Electronic Business Calculations 2
- Additional courses for general secretarial area:
 - 2540:171,3,274 or 276 Shorthand/Transcription 8
 - 2540:141 Information Management 3
 - or Introduction to Office Procedures 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:
 - 2420:211 Accounting I 3
 - 2540:121 Introduction to Office Procedures 3
 - 2540:241 Information Management 3
 - 2540:281 Machine Transcription 2

Philosophy

Requirements

- A total of 18 semester credits in philosophy including: (a) at least three semester credits at the introductory level (introduction to philosophy, logic or ethics); and (b) at least six semester credits at the 300/400 level.
- Students may select a minor related to their major area of study.

Minors

Major Area	Philosophy Minor
Arts	philosophy of art
Humanities	philosophy
Natural sciences	philosophy of science
Computer sciences/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 2
 3600:350 Philosophy of Art 2
 3600:211, 312,13 History of Philosophy 2
 3600:481/581 Philosophy of Language 2
 3600:232 Philosophy of Religion 3
 3600:424/524 Existentialism 4
 3600:426/526 Phenomenology 8

Humanities (philosophy)
 3600:120, 223 Ethics 2
 3600:170, 374 Logic 3
 3600:211, 312,13 History of Philosophy 2
 3600:350 Philosophy of Art 2
 3600:462/562 Theory of Knowledge 2
 3600:481/581 Philosophy of Language 2
 3600:424/524 Existentialism 4
 3600:426/526 Phenomenology 2
 3600:471/571 Metaphysics 2

Natural Sciences (philosophy of science)
 3600:120, 223 Ethics 2
 3600:170, 374 Logic 3
 3600:464/564 Philosophy of Science 2
 3600:418/518 Analytic Philosophy 3
 3600:471/571 Metaphysics 2
 3600:426/526 Phenomenology 2
 3600:462/562 Theory of Knowledge 2
 3600:211 History of Ancient Philosophy 2

Physics

- Requirements for a minor in physics include: 3650:291,2 *Elementary Classical Physics I, II* — eight credits; and, physics electives at the 300/400 level — 10 credits. Note: 3650:261,2, *Physics for the Life Sciences*, may be substituted for 3650:291,2, in whole or in part.

Recommended physics electives: most students should elect 3650:301. Unless a student has already acquired considerable expertise in electronics, courses 3650:310, 322 and 323 should prove valuable. Finally, 3650:320 provides an important background in optics, useful to engineers, geophysicists and others.

Political Science

- Each student shall complete at least nine of the required credits in 300/400- level course work in political science.
- A student may select a minor concentration from one of the five following course sequences.

American Politics

3700:100	Government and Politics in the United States	4
Fourteen credits from the following:		
3700:210	State and Local Government and Politics	3
3700:302	American Political Ideas	3
3700:341	The American Congress	3
3700:342	Minority Group Politics	3
3700:350	The American Presidency	3
3700:360	The Judicial Process	3
3700:370	Public Administration: Concepts and Practices	4
3700:380	Urban Politics and Policies	4
3700:381	State Politics	3
3700:382	Intergovernmental Relations	3
3700:395	Internship in Government and Politics	2-9
3700:402	Politics and the Media	3
3700:440	Public Opinion and Political Behavior	4
3700:470	Campaign Management	3
3700:471	Campaign Finance	3
3700:472	American Interest Groups	3
3700:473	American Political Parties	3

Comparative Politics

3700:300	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
3700:326	Politics of Developing Nations	3
3700:327	African Politics	3
3700:330	Canadian Politics	3
3700:405	Politics in the Middle East	3
3700:420	Issues and Approaches in Comparative Politics	3
3700:425	Latin American Politics	3

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

†This eight-credit requirement must be satisfied in four separate semesters. In order to complete the Minor in Music, the student must successfully jury to the "200" level.

International Politics

3700:100	Government and Politics in the United States	4
3700:310	International Politics and Institutions	4
3700:415	Comparative Foreign Policy	3
Seven credits from the following:		
3700:220	American Foreign Policy	3
3700:300	Comparative Politics	4
3700:304	Modern Political Thought	3
3700:312	The Politics of International Trade and Money	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
3700:326	Politics of Developing Nations	3
3700:327	African Politics	3
3700:330	Canadian Politics	3
3700:405	Politics in the Middle East	3
3700:410	International Defense Policy	3
3700:411	Theories of International Political Economy	3
3700:425	Latin American Politics	3

Public Policy Analysis

3700:100	Government and Politics in the United States	4
3700:201	Introduction to Political Science	3
3700:441	The Policy Process	3
3700:442	Methods of Policy Analysis	3
3700:480	Policy Problems	3

Two credits from the following:

3700:301	Advanced Political Research	3
3700:325	Comparative Public Policy	3
3700:370	Public Administration: Concepts and Practices	4
3700:382	Intergovernmental Relations	3
3700:402	Politics and the Media	3
3700:440	Public Opinion and Political Behavior	4

Pre-Law

3700:100	Government and Politics in the United States	4
3700:360	The Judicial Process	3
3700:461	The Supreme Court and Constitutional Law	4

Seven credits from the following:

3700:210	State and Local Government and Politics	3
3700:302	American Political Ideas	3
3700:341	The American Congress	3
3700:361	Politics of the Criminal Justice System	3
3700:381	State Politics	3
3700:392	Special Topic: Criminal Law and Procedures	1-3
3700:395	Internship in Government and Politics	2-9
3700:462	The Supreme Court and Civil Liberties	3

Psychology

- A total of 19 credits in Psychology with eight credits of 300/400-level coursework.
- Required for all students:

3750:100	Introduction to Psychology	Credits	3
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- At least one course from these 100-200-level courses:

3750:110	Quantitative Method in Psychology	4
3750:220	Introduction to Experimental Psychology	4
3750:230	Development Psychology	4
3750:240	Industrial/Organizational Psychology	4

- At least one course from these 300-level courses:

3750:320	Biopsychology	4
3750:335	Dynamics of Personality	4
3750:340	Social Psychology	4
3750:345	Cognitive Processes	4

- Courses from the following list which relate to student's area of interest:

3750:400	Personality	4
3750:410	Psychological Tests and Measurements	4
3750:420	Abnormal Psychology	4
3750:430	Psychological Disorders of Childhood	4
3750:435	Cross-cultural Psychology	4
3750:441	Clinical and Counseling Psychology	4
3750:443	Human Resource Management	4
3750:444	Organizational Theory	4
3750:445	Psychology of Small Group Behavior	4
3750:450	Cognitive Development	4
3750:460	History of Psychology	3
3750:475	Psychology of Adulthood and Aging	4
3750:485	Applied Developmental Psychology	4

Restaurant Management

2280:121	Fundamentals of Food Preparation I	4
2280:122	Fundamentals of Food Preparation II	4
2280:135	Menu Planning and Purchasing	3
2280:232	Dining Room Service and Training	2
2280:233	Restaurant Operations and Food Management	4
2280:238	Cost Control Procedures	3

Culinary Arts

2280:121	Fundamentals of Food Preparation I	4
2280:122	Fundamentals of Food Preparation II	4
2280:123	Meat Technology	2
2280:160	Wine and Beverage Service	2
2280:232	Dining Room Service and Training	2
2280:261	Baking and Classical Desserts	3
2280:262	Classical Cuisine	3
2280:263	International Foods	2

Hotel/Motel Management

2280:150	Front Office Procedures	3
2280:152	Maintenance and Engineering Management	3
2280:153	Principles of Fire Protection and Life Safety	3
2280:240	System Management and Personnel	3
2280:256	Hospitality Law	3
2280:255	Hotel/Motel Sales Promotion	3
2280:254	Hotel/Motel Housing Management	3

Sociology

- Nineteen total credits are required.
- Required for all students:

3850:100	Introduction to Sociology	4
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- A minimum of 15 additional credits of sociology courses at the 300/400 level are required. Students may wish to select courses which relate to a particular interest area (e.g., family, health and illness, sex roles, urban life, gerontology). These areas are outlined in materials available in the Department of Sociology. Students with such interest should see an adviser in the Department of Sociology for assistance in course selection for the minor program.

Theatre Arts

(Requires a minimum of 24 credits.)

7800:100	Experiencing Theatre	3
7800:265	Basic Stagecraft I	3

Twelve additional credits are required: three credits from each of the following areas, three credits of theatre electives, plus three credits of practical theatre experience.

Design/Technology

7800:106	Introduction to Stage Design	3
7800:107	Introduction to Stage Costume Techniques	3
7800:255	Stage Lighting	3

Acting/Directing

7800:172	Acting I	3
7800:271	Directing I	3

Musical Theatre

7800:421	Music Theatre Production	3
7800:475	Acting for the Musical Theatre	3

History/Dramatic Literature

7800:370	The American Theatre	3
7800:467	Contemporary Theatre Styles	3

Theatre Production/Performance

7810:—	Production/Performance	3
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Theatre Electives

3

Transportation

- Core:

2560:110	Principles of Transportation	3
2560:118	Transportation Rate Systems	3
2560:221	Traffic and Distribution Management	3
2560:224	Transportation Regulation	3
- Six credits from the following:

2560:115	Motor Transportation	3
2560:116	Air Transportation	2
2560:117	Water Transportation	2
2560:222	Microcomputer Applications in Transportation	3
2560:227	Transportation of Hazard Materials and Wastes	2

Airline/Travel Industry Option

Students wishing to obtain a minor in this option must complete the following courses with a 2.0 grade point average.

- Core:

2560:110	Principles of Transportation	3
2560:116	Air Transportation	2
2560:228	Introduction to Travel	2

2560:229	Passenger Ticketing	2
2560:230	Tour Planning and Packaging	2

In addition to the above core, a minimum of seven hours must be completed from the following:

2560:118	Transportation Rate Systems	3
2560:140	Keyboarding for Nonmajors	2
2560:221	Traffic and Distribution Management	3
2560:231	Computerized Reservations I	2
2560:232	Computerized Reservations II	2



SECTION Six

**Interdisciplinary and
certificate programs**

F A C T S

Total funding for research and
sponsored programs for the years
ended June 30:

- 1991: \$14.40 million
- 1990: \$13.31 million
- 1989: \$8.64 million
- 1988: \$8.44 million
- 1987: \$6.76 million

Interdisciplinary and Certificate Programs of Study

OVERVIEW

To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a major, the student may elect to pursue one of these programs.

Interdisciplinary Studies programs feature courses which integrate and analyze issues and concepts from more than one field. The goal of this type of study is to place knowledge into a greater perspective than would be possible through any one traditional field. This is accomplished by taking courses from a variety of departments as well as courses which may be team taught. Interdisciplinary Studies and certificate programs will include coursework designated as 1800:_____.

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

N. Holmes, *Director*

Requirements

To satisfy the requirements for the certificate, a student must complete at least 11 semester credits and four courses with a minimum 2.00 GPA from the list of acceptable courses or other courses identified by the director. The requirements are as follows:

		<i>Credits</i>
1810:401	General Seminar in Afro-American Studies (A research paper in Afro-American Studies will be written in this course.)	3
3400:220	Black People of the United States	3

Acceptable Courses

1100:335	Eastern Civilizations — Africa	2
1810:401	General Seminar in Afro-American Studies	3
2040:254	The Black American	2
3250:486	Ghetto Economic Development	3
3300:350	Black American Literature	3
3300:389	United States Dialects: Black and White	3
3350:363	Africa South of the Sahara	3
3400:220	Black People of the United States	3
3400:413	Black Social and Intellectual History	3
3700:327	African Politics	3
3850:421	Racial and Cultural Intergroup Relations	3
7750:270	Poverty in the United States	3
7750:276	Introduction to Social Welfare	4
7750:410	Minority Issues in Social Work	3

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; be one semester in duration; and 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

John Mumper, *Coordinator*

This program is intended for individuals who wish to enhance their knowledge of the aging process, study issues pertinent to the elderly, and develop skills useful in working with senior citizens. This program is not limited to community services majors.

This certificate is generally designed for individuals in one of the following categories:

- The person with no degree but who is contemplating working with senior citizens.
- The person with a degree who has not had specialized training in the field of gerontology, but who would like to work in this field.
- The person employed in this field who would like to upgrade his/her knowledge and skills.
- Persons interested in enhancing the quality of their post-retirement years or those of family and friends.

Persons interested in this program should consult with the Coordinator of Community Services Technology or an academic adviser in the Community and Technical College.

Requirements

2020:121	English	4
2020:222	Technical Report Writing	3
2260:150	Introduction to Gerontological Services	3
2260:251	Community Services for Senior Citizens	3
2260:278	Techniques of Community Work	4
2260:279	Technical Experience: Community and Social Services	5
Any two of the following four courses:		
2040:240	Human Relations	3
2040:244	Death and Dying	2
2260:252	Resident Activity Coordination	3
2260:290	Special Topic: The World of Retirement	3

ALCOHOL SERVICES AIDE

This program is intended for individuals who wish to enhance their knowledge of alcohol use and abuse and the treatment of alcoholism. The program is not limited to community services majors. This certificate is generally designed for individuals in one of the following categories:

- The person with no degree but who is contemplating working in the field of alcoholism treatment.
- The person with a degree who has not had specialized training, but who would like to be employed in the field of alcoholism treatment.
- The person employed in this field who would like to upgrade his/her knowledge and skills.

Persons interested in this program should consult with the Coordinator of Community Services Technology or an academic adviser in the Community and Technical College.

Requirements

2020:121	English	4
2020:222	Technical Report Writing	3
2260:260	Alcohol Use and Abuse	3
2260:261	Alcohol Treatment	3
2260:262	Basic Helping Skills in Alcohol Problems	4
2260:263	Group Principles in Alcoholism	4
2260:278	Techniques of Community Work	4
2260:279	Technical Experience: Community and Social Services	5

APPLIED POLITICS

Dr. John C. Green, *Director*

The Certificate Program, through the Ray C. Bliss Institute of Applied Politics, offers concentrated coursework in the history, organization and management

of campaigns intended to influence the outcome of political decisions. This includes as a major focus, but is not limited to, efforts to capture elective public office in partisan contests. This program is available to any student who has a deep interest in practical politics. The set of courses comprising the certificate program is also incorporated as a track within the Bachelor of Arts and Bachelor of Science in Public Policy Management Program. Interested students are able to create degree programs with an emphasis on campaign management.

Requirements

Persons are eligible for admission to the Certificate Program in Applied Politics if they have been admitted to study as special, non-degree or full-time students in any department of the University. Students who are pursuing a graduate degree in other departments at the University may be admitted to the master's level certificate program upon the recommendation of the head of the department in which they are enrolled. Students shall seek admission to this program by filing an application with the political science department. The student will schedule courses with the assistance of an adviser in the department.

Core Courses

3700.440/540	Public Opinion and Political Behavior	4
3700.470/570	Campaign Management	3
3700.471/571	Campaign Finance	3
3700.473/573	American Political Parties	3
3700.395/695	Internship	3

Electives

In addition to the core courses, students must complete two of the following elective courses:

3700.392/690	Special Topics (Applied Politics Focus)*	3
3700.397/697	Independent Study*	3
3700.402/502	Politics and the Media	3
3700.472/572	American Interest Groups	3
3700.6XX	One American Politics Graduate Seminar*	3

Students must maintain at least a 3.0 average in the certificate coursework.

Certificate

Political science majors at both the undergraduate and graduate level will, upon completion of the program, be awarded a B.A., B.S. or M.A. in Political Science with a Certificate in Applied Politics. Majors in other disciplines will have the certificate noted on their permanent records.

CARTOGRAPHIC SPECIALIZATION

Dr. A. Noble, *Department Head*

Requirements

This program of professional and scientific education is intended to enhance cartographic training in data handling, analysis and graphic communication of simple and complex geographic data and information. The program is not limited to geography majors and is designed to introduce automated and traditional cartographic skills to the student in a wide spectrum of disciplines offered through the laboratory for cartographic and spatial analysis housed in the Department of Geography. These training opportunities provide for specialized study in the rapidly changing and significant area of cartography as a method of graphic communication. The program is flexible to meet the varied backgrounds and interests of the individual student.

In addition to cartographic courses in the Department of Geography, many useful courses are found in other departments. The program is designed to permit the student to combine interesting and useful elements of art, science and technology.

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 skill in business, industry and government, as well as the academic community.

Core

Complete five of the following basic courses:

		Credits
3350.240	Maps and Map Reading	3
3350.340	Cartography	3
3350.442	Thematic Cartography	3
3350.444	Map Compilation and Reproduction	3
3350.447	Introduction to Remote Sensing	3
3350.448	Automatic Computer Mapping	3
3350.449	Advanced Remote Sensing	3

Electives

Each student must complete at least seven credits distributed between professional, technical and research offerings in departments other than the Department of Geography. These courses will be selected in consultation with the program's director. Similar courses completed at other universities, up to five years prior to admission to candidacy, may be approved by the director.

The electives help develop a diverse cartographic skill and perspective which is significant and useful for persons working with data systems management, urban planning and environmental impact studies. To be truly effective and comprehensive in a career, the student must know a variety of professional and technical approaches to cope with social, economic, political, geographical, physical design and governmental problems. Selecting courses that duplicate or continue topical interests already well established in a particular student's background will be discouraged.

Internship

Internship in an agency, firm or office engaged in related graphic and cartographic work; or an internship in the University's Laboratory for Cartographic and Spatial Analysis.

Final Examination and Defense of Cartographic Works

After the completion of coursework each student undergoes an oral examination covering samples of the student's cartography, conducted by two members of the department and one from the elective area. Questions cover the specific projects and topics covered in the coursework completed specifically for the program. One week before the scheduled examination, the student submits samples of cartographic work.

The works must be acceptable by the examination committee and reduced photographic copies will be kept for permanent record in the laboratory's file. After passing the oral examination and the acceptance of the samples of cartography, the student is considered to have completed the program.

A minimum grade of "C" is required in all elective courses taken as part of the certificate program. In the five core courses, an average grade of "B" is required.

CHILD CARE WORKER*

Harriet K. Herskowitz, *Coordinator*

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.

2040:240	Human Relations	3
2200:245	Infant/Toddler Day-Care Programs	3
2200:250	Observing and Recording Children's Behavior	3
5200:310	Introduction to Early Childhood Education	3
5200:315	Issues and Trends in Early Childhood Education	3
5200:360	Teaching in the Nursery Center	2
5200:370	Nursery Center Laboratory	2
7400:265	Child Development	3
7400:270	Theory and Guidance of Play	3
7400:280	Creative Activities for Pre Kindergarten Children	4

Commercial Photography

Required Courses:

2240:122	Introduction to Commercial Photography	4
2240:210	Portrait/Fashion Photography	4

*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.

*Students must have prior approval of the Bliss Institute Director.

2240:224	Illustration/Advertising Photography	4
2240:250	Advanced Commercial Photography	4
7100:275	Introduction to Photography	3

COMPUTER SOFTWARE FOR BUSINESS

Rebecca Marsh, *Coordinator*

Requirements

The Computer Software for Business certificate provides the opportunity for those with little or no prior computer experience to become proficient in the use of popular microcomputer software and understand the fundamental concepts of software development.

2440:120	Computer and Software Fundamentals	2
2440:121	Introduction to Programming Logic	2
2440:125	Lotus 1-2-3	2
2440:133	Structured COBOL Programming	2
	or	
2440:130	BASIC Programming for Business	3
2440:151	PC DOS Fundamentals	1
2440:245	Introduction to dBase III+/IV	3
	or	
2440:267	4GL for Micros:dBase III+	3

CRIMINAL JUSTICE TECHNOLOGY

Charles F. Williams, *Coordinator*

Requirements*

The program specified is designed to provide background, proficiency and updating in the criminal justice area. In the immediate geographic area there are approximately 2,200 police officers and support personnel in police departments. While many of these police officers have completed a degree, many more would benefit by this type of approach. The designed program would provide a measure of recognition for those students enrolled and completing the program. The program would be continually monitored and has been included in many localities as an incentive for promotion, pay increases and lateral movement within the police agency.

2200:100	Introduction to Criminal Justice	3
2220:102	Criminal Law for Police	3
2220:104	Evidence and Criminal Legal Process	3
2220:240	Dynamics of Vice Crime and Substance Abuse	3
2220:250	Criminal Case Management	6
3850:100	Introduction to Sociology	4

CRIMINAL JUSTICE/ SECURITY EMPHASIS

Charles F. Williams, *Coordinator*

Requirements*

The program specified is designed as an integrated approach to provide proficiency and updating in the security field. The security field is one of the fastest growing areas of business today. There are approximately 750,000 individuals in the United States dealing with security problems. In the state of Ohio, there are approximately 70,000 and in the local area, 2,500 security personnel. The field is upgrading very rapidly by accepted state training and there is a move now for more education to be provided at the college level.

2220:101	Introduction to Security	4
2220:290	Special Topics in Criminal Justice	3
2230:104	Fire Investigation Methods	3
2230:250	Hazardous Materials	4
2250:260	Administration and Supervision for Public Service	3
2880:141	Safety Procedures	3

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.

COMPUTER PHYSICS CERTIFICATE

Dr. E. Von Meerwall, *Director*

Requirements

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

Physics

3650:291,2	Elementary Classical Physics I, II	8
3650:325	Laboratory Data Analysis	3
3650:350	Computational Physics	3
3650:468	Digital Data Acquisition	3

Mathematics

3450:221,2	Analytic Geometry-Calculus I, II	8
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Computer Science

3460:209	Computer Programming I	3
3460:210	Computer Programming II	3

The certificate program has been structured to be accessible to most students working toward an undergraduate degree in a traditional area of science. The certificate may be combined with a minor in physics for students who wish to obtain a background in physics which emphasizes applications and uses of computers to collect and analyze data and to solve physical problems.

COMPUTER SCIENCE

Dr. David C. Buchthal, *Acting Department Head*

Requirements

Entrance

To qualify for the Computer Science Certificate Program, a student must be in good academic standing in the major department, must have completed four credits of mathematics in the Department of Mathematical Sciences and must submit to the department head a written request for admission to the program. The request will outline the student's reasons and goals for enrolling in the program. The area of concentration adds a further dimension of both mathematics and computer science to the student's major in one of the traditional academic disciplines. A minimum grade-point average of 2.00 in the certificate is required.

Courses

3450:208	Discrete Mathematics	4
3450:215	Concepts of Calculus I	4
3450:221	Analytic Geometry-Calculus I	4
3460:209	Introduction to Computer Sciences	3
3460:210	Computer Science II	3
2460:306	Assembly Language Programming	3
3460:316	Introduction to Data Structures	3
	Approved 300/400-Level Computer Science Electives	6

DRAFTING AND COMPUTER DRAFTING TECHNOLOGY

Paul R. John, *Coordinator*

Requirements

The certificate program in Drafting and Computer Drafting Technology is intended for individuals who wish to enhance their drafting skills. The program has been designed so that an individual can emphasize a specific area of drafting.

The following 9 semester hours are required:

2940:121	Technical Drawing I	3
2940:122	Technical Drawing II	3
2940:210	Computer Drafting	3

A minimum of 9 hours selected from the following:

2870:311	Computer Aided Drafting II	2
2940:170	Surveying Drafting	3
2940:200	Advanced Drafting	3
2940:230	Mechanical Systems Drafting	3
2940:240	Electrical & Electronic Drafting	3
2940:250	Architectural Drafting	3
2980:250	Structural Drafting	2
3350:340	Cartography	3

All courses taken may be applied toward an associate degree in Drafting Technology.

ENVIRONMENTAL HEALTH

Richard E. Amos, *Coordinator*

Students majoring in any department may earn the certificate in environmental health by completing a program agreed on in advance by the coordinator and the major adviser, to include at least 21 credits in approved core and elective courses. Students must also complete a course in statistics approved by the Environmental Health Committee. The certificate program is designed to supplement the student's major and therefore the certificate will be awarded only upon completion of the bachelor's degree.

Core Courses

1890:300	Introduction to Environmental Health	3
1890:410	Epidemiology	3
1890:437	Individual Studies or Internship in Environmental Health or Approved Equivalent	1-3

Electives

Students will complete courses in at least two departments in the natural sciences and two in the social sciences, not to include the major department, from the following list or others approved by the Environmental Health Committee.

Environmental Health

1890:450	Seminar in Environmental Health	1
1890:480	Special Topics in Environmental Health	1-3

NATURAL SCIENCES

Biology

3100:130	Principles of Microbiology (non majors)	3
3100:331	Microbiology (majors)	4
3100:383	Laboratory Techniques and Instrumentation in Biology	2
3100:426	Applied Aquatic Ecology	3
3100:450	Animal Pests and Vectors	3
3100:480	Radiation Biology	3

Chemistry

3150:498	Special Topics: Environmental Chemistry	3
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Geography

3350:495	Soil and Water Field Studies	3
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Geology

3370:200	Environmental Geology	3
3370:470	Geochemistry	3
3370:474	Groundwater Hydrology	3

Civil Engineering

4300:423	Water Pollution Principles	4
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Home Economics and Family Ecology

7400:133	Fundamentals of Nutrition	3
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SOCIAL SCIENCES

Philosophy

3600:120	Introduction to Ethics	3
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Political Science

3700:441	Policy Processes	3
3700:442	Methods of Policy Analysis	3
3700:480	Policy Problems	3

Psychology

3750:340	Social Psychology	4
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Sociology

3850:323	Social Change	3
3850:342	Sociology of Health and Illness	3
3850:457	Culture and Medicine	3

Health Education

5570:400	Environmental Aspects of Health Education	3
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Social Work

7750:450	Social Needs and Services: Aging	3
7750:452	Social Work: Mental Health	3
7750:456	Social Work in Health Services	3

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:

1830:201	Man and the Environment	2
1830:401	Seminar in Environmental Studies	2

The student will be required to select courses from areas other than the major since the purpose of the program is to broaden the student's background.

The student's plan of study for this certificate will be developed in consultation with the director of the Center for Environmental Studies.

Courses

1830:201	Man and the Environment	2
1830:401	Seminar in Environmental Studies	2
1830:490	Workshop in Environmental Studies	1-4
1830:602	Evaluation of Environmental Data	3
1830:661	Graduate Seminar in Environmental Studies	3
3100:105	Ecology and Biological Resources	2
3100:217	General Ecology	3
3100:422	Conservation of Biological Resources	3
3100:424	Limnology	3
3100:426	Applied Aquatic Ecology	3
3250:385	Economics: Natural Resources and Environment	3
3350:314	Climatology	3
3350:335	Recreational Resource Planning	3
3350:436	Urban Land Use Analysis	3
3350:447	Introduction to Remote Sensing	3
3350:495	Soil and Water Field Studies	3
3370:200	Environmental Geology	3
3370:474	Ground Water Hydrology	3
3370:678	Urban Geology	3
3400:434	American Environmental History	3

3850.321	Population	3
3850.425	Sociology of Human Life	3
4100.201	Energy and Environment	2
4100.202	Atmosphere Pollution	2
4200.463	Pollution Control	3
4300.421	Environmental Engineering	3
4300.425	Environmental Engineering Laboratory	2
5800.491	Workshop: Arithmetic or in Physical Science	3

FIRE PROTECTION TECHNOLOGY

David H. Hoover, *Coordinator*

Requirements*

Although fire continues to be a growing problem in the United States with more than 2,300,000 fires annually causing 6,000 fatalities and 30,000 injuries, many municipalities are financially unable to provide a full-time fire department and instead must depend upon the dedicated volunteer firefighter. As this trend continues, the need for the well-educated volunteers will be even more critical as these citizens assume responsible officer positions.

The Fire Protection Technology certificate will assist the student in acquiring the skills and knowledge to function effectively as a volunteer/paid on-call firefighter or officer in addition to receiving a certificate of completion and accomplishment.

2230.100	Introduction to Fire Protection	3
2230.102	Fire Safety in Building Design and Construction	3
2230.104	Fire Investigation Methods	3
2230.202	Fire Suppression Methods	3
2230.204	Fire Hazards Recognition	3
2230.205	Fire Detection and Suppression Systems I	3
2230.250	Hazardous Materials	4

GERONTOLOGY

Dr. Harvey Sterns, *Director*

Dr. Isadore Newman, *Associate Director*

Mrs. Evelyn Sutton, *Program Coordinator, Gerontology*

Dr. Jerome Kaplan, *Program Coordinator, Nursing Home Administration*

Requirements

This certificate program is a special course of study along with undergraduate and graduate degree programs in various departments and colleges throughout the University. Individuals who already hold undergraduate or graduate degrees may also pursue the certificate. The program represents a concentration involving current knowledge and research in gerontology. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that are becoming specialized in research and service to adults and older adults. This course of study coordinates multidisciplinary training of personnel in adult development and aging and helps to meet the critical shortage of trained individuals in the field of gerontology.

The undergraduate and graduate curriculum committees 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.

In addition, this certificate is included in the Ohio Board of Examiners of Nursing Home Administrators approved course of study in Nursing Home Administration which combines a Bachelor of Science in Industrial Management (Personnel Option) with a Certificate in Gerontology.

B.S./M.D. students may complete Practicum/Internship and electives from available gerontology courses or the Office of Geriatric Medicine and Gerontology, NEOUCOM.

Admission

To participate in the program, a student should:

- Be formally admitted to The University of Akron as an undergraduate, postbaccalaureate or graduate student.
- Make written application to the program countersigned by student's major academic adviser.
- Have an interview with a designated faculty member of the Institute for Life-Span Development and Gerontology.
- Receive written notification for admission from the director of the Institute for Life-Span Development and Gerontology.
- Consult with the director or a designated faculty member to formulate a program of study.

Program

Minimum: 20 credits.

Core

1850.450	Interdisciplinary Seminar in Gerontology	2
1850.495	Practicum/Internship (within Institute or in individual departments.)	3
3100.192	Biology of Aging	3
	Prerequisite: 112 or 265 or 206 or 207 or equivalent	
3750.475	Psychology of Adulthood and Aging	4
	Prerequisite: 100 or permission	
3850.343	The Sociology of Aging	3
	Prerequisite: 100 or permission	

Electives (must be outside of student's major degree department)

1850.486	Retirement Specialist	2
3700.480	Policy Problems: Aging	3
3850.444	Social Issues in Aging	3
3850.365	Death and Dying	1-3
	or	
2040.244	Death and Dying	2
5400.440	Life-Span and Community Education	2
5550.300	Physiology of Exercise for the Adult & Elderly	2
6500.480	Introduction to Health Care Management	3
7400.390	Family Relationships in Middle and Later Years	2
7700.110	Introduction to Disorders of Communication	3
7750.450	Social Needs and Services for Later Adulthood and Aging	3

For students in course sequence in Nursing Home Administration, the following courses are required:

1850.485	ST: Long Term Care Administration	3
1850.485	ST: Long Term Care Case Management and Patient Services	3
1850.485	ST: Long Term Care Health and Nutrition	3
1850.485	ST: Long Term Care Administrator-in-Training Experience	3

One credit workshop may be included with special permission.

B.S./M.D. students may complete Practicum/Internship and electives from courses available from the Institute or the Office of Geriatric Medicine and Gerontology, NEOUCOM.

HOSPITALITY MANAGEMENT

Janice L. Eley, *Coordinator*

Program

The Hospitality Management certificates in Culinary Arts, Hotel/Motel Management, and Restaurant Management are intended to meet the need of persons who are active or wish to become active in the hospitality industry and are seeking to acquire specific knowledge which will be of immediate use in their careers. The certificates are also of use to nonhospitality majors who wish to broaden their skills and employability by completing the required 32 credits of class and laboratory credits.

The award of this certificate is not contingent upon completion of a degree program. All courses taken may be applied toward an associate degree in hospitality management.

Culinary Arts

2280.120	Safety and Sanitation	3
2280.121.2	Fundamentals of Food Preparation I, II	8
2280.123	Meat Technology	2
2280.160	Wine and Beverage Service	3
2280.232	Dining Room Service and Training	2
2280.233	Restaurant Operation and Management	4

*This 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.

2280:233	Restaurant Operations and Management	4
2280:240	Systems Management and Personnel	3
2280:261	Baking and Classical Desserts	3
2280:262	Classical Cuisine	3
2280:263	International Foods	2

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

Hotel/Motel Option

2280:120	Safety and Sanitation	3
2280:135	Menu Planning and Purchasing	3
2280:150	Front Office Procedures	3
2280:152	Maintenance and Engineering for Hotels and Motels	3
2230:153	Principles of Fire Protection and Life Safety	3
2280:232	Dining Room Service and Training	2
2280:238	Cost Control Procedures	3
2280:240	Systems Management and Personnel	3
2280:254	Hotel/Motel Housing Management	3
2280:255	Hotel/Motel Sales Promotion	3
2280:256	Hospitality Law	3

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

Restaurant Management Option

2280:120	Safety and Sanitation	3
2280:121	Fundamentals of Food Preparation I	4
2280:122	Fundamentals of Food Preparation II	4
2280:123	Meat Technology	2
2280:135	Menu Planning and Purchasing	3
2280:232	Dining Room Service and Training	2
2280:233	Restaurant Operation and Management	4
2280:237	Internship	1
2280:238	Cost Control Procedures	3
2280:240	Systems Management and Personnel	3
2280:243	Food Equipment and Plant Operations	3

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

INTERIOR DESIGN

Carolyn Albanese, Assistant Professor

Requirements

This certificate program represents a concentration of study in interior design emphasizing an interdisciplinary approach between the Department of Home Economics and Family Ecology and the Department of Art. The program is designed to add another dimension to the four-year baccalaureate degree in clothing and textiles and the four-year baccalaureate degree in graphic design. The certificate program is open to undergraduates in other disciplines as well as persons with baccalaureate degrees from the University or other accredited institutions. The certificate must be issued simultaneously with a baccalaureate degree or to those already holding a baccalaureate degree. The following requirements must be met:*

7100:131	Drawing I	3
7100:244	2 Dimensional Design	3
7100:491	Architectural Presentations I	3
7100:492	Architectural Presentations II	3
7400:121	Textiles	3
7400:158	Introduction to Interior Design	3
7400:418	History of Furnishings and Interiors I	3
7400:419	History of Furnishings and Interiors II	3
7400:432	Interior Textiles and Product Analysis	3
7400:433	Residential Design	3
7400:434	Commercial Design	3
7400:435	Principles and Practices of Design	3
	Total Hours Required:	36

• Students must select 6 hours from the following courses:

7100:121	3 Dimensional Design	3
7100:244	Color Concepts	3
7400:302	Consumers of Services	3
7400:485	Seminar: Lighting for Man Made Environments	2
7400:485	Seminar: Office Design	2
7400:485	Seminar: CAD for Interior Designers	2
7400:497	Internship: Interior Design	3

*Some prerequisites to these courses are core courses that are sequenced. The other courses that are prerequisites are presently part of the clothing and textiles and graphic design curricula. The student opting to take the certificate program who is from other disciplines is required to take the prerequisite to raise the level of competency to that of a major in clothing and textile and/or graphic design.

LATIN AMERICAN STUDIES

Dr. Hugo Lijeron, Coordinator

Requirements

The student in the Latin American Studies Certificate Program will major in the respective disciplines: economics, geography, history, political science, sociology and Spanish.

In addition, the student will take 12 credits in the three separate disciplines chosen from the following list:

Political Science

3700:425	Latin American Politics	3
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History

3400:415	Latin America: National Origins	3
3400:416	Latin America: 20th Century	3
3400:417	United States, Latin America and Imperialism	3
3400:418	Mexico	3

Geography

3350:353	Latin America	3
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Sociology/Anthropology

3870:257	Indians of South America	3
3870:356	New World Prehistory	3

Economics

3250:460	Economic Development and Planning for Underdeveloped Countries	3
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The student is also required to study three years of Spanish or the equivalent.

LEGAL ASSISTING

Jo Ann Harris, Coordinator

This certificate prepares students who already have earned an academic degree or who already have basic English reading and writing skills to gain the technical courses necessary to assist lawyers participating in the private practice of law, corporate law or agency practice.

Admission Requirements:

Students interested in the certificate program, which can be completed within one academic year, must meet one of the following criteria in order to be admitted:

- Bachelor's degree;
- Associate degree;
- Three years experience in providing legal assistance in a law office (within the past five years). Students must get their experience verified and it must be approved by the program coordinator.

Graduation Requirements:

- 2.0 GPA in major;
- Minimum of 31 credits as in curriculum outline;
- No grade below a C in major.
- Required coursework includes

2290:101	Introduction to Legal Assisting	3
2290:104	Basic Legal Research and Writing	3
2290:106	Business Associations	3
2290:108	Real Estate Transactions	3
2290:118	Probate Administration	4
	or	
2290:220	Legal Assisting Internship	4
	Elective	4

• Students are required to take 15-16 hours from the following courses:

2290:110	Tort Law	3
2290:112	Family Law	3
2290:204	Advanced Legal Research	3
2290:210	Advanced Probate Administration	3
2290:212	Debtor-Creditor Relations	3
2290:214	Civil Procedures	3
2290:220	Legal Assisting Internship	4

Students interested in a **Probate** emphasis shall take 2290:204, 2290:210 and three other courses of their choice during the Spring Semester.

Students interested in a **Civil Litigation** emphasis shall take 2290:220, 2290:204, 2290:214 and two other courses of their choice during the Spring Semester.

LIBRARY STUDIES

Harriet S. Herskowitz, *Coordinator*

Requirements

The Certificate Program in Library Studies provides basic library skills for library paraprofessionals. It will help students meet their short-range goals in acquiring skills for immediate job placement. In addition to providing entry-level skills, the program would be responsive to the needs of small businesses who need employees with organizational skills.

2200:100	Introduction to Library Technology	3
2200:201	Cataloging, Classifying, and Processing Materials	3
2200:202	Organizing and Operating Library/Media Centers	3
2200:203	Materials Selection	2
2200:204	Reference Procedures	3
2200:205	Information Retrieval Systems in Library Technology	3

LINGUISTIC STUDIES

Dr. Arthur Palacas, *Director*

Requirements

Completion of six linguistically oriented courses as follows: the foundation course, two core courses and at least three elective courses. Three 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**

3300:371	Introduction to Linguistics	3
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Core†

3300:472	Syntax	3
3600:481	Philosophy of Language	3
3870:461	Language and Culture	3
7700:230	Speech and Language Development	3
	or	
7700:430	Aspects of Normal Language Development	3

Electives

3300:400	Anglo Saxon	3
3300:470	History of the English Language	3
3300:471	U.S. Dialects: Black and White	3
3300:473	ST: Teaching ESL: Theory and Method	3
3300:489	ST: Sociolinguistics	3
3460:460	Artificial Intelligence and Heuristics Programming	3
3460:470	Automata, Computability and Formal Language	3
3580:405,6	Spanish Linguistics	8
3600:170	Introduction to Logic	3
3600:374	Symbolic Logic	3
3600:418	Analytic Philosophy	3
3600:471	Introduction to Metaphysics	3
5200:335	Teaching of Language Arts	5
5630:481	Multicultural Education in the United States	3
7600:325	Intercultural Communication	2
7700:111	Introduction to Phonetics	2
7700:271	Language of Signs I	3

**Required

†At least two required.

MANUAL COMMUNICATION

Mona S. Klingler, *Coordinator*

Requirements

This certificate, designed for those who communicate with the deaf population, is open to undergraduate majors in any discipline as well as persons with a baccalaureate degree from the University or any other accredited institution. The following requirements must be met.

Core

2210:111	Introduction to Sign, Deafness, and Interpreting Services	3
7700:100	Manual Communication I	5
7700:120	Introduction to Audiology/Aural Rehabilitation	3
7700:150	Manual Communication II	4
7700:200	Manual Communication III	4
7700:222	Introduction to the Deaf Culture and Its Origins	2
7700:271	Language of Signs I	3

Electives

7700:121	Psychosocial Aspects of Deafness	3
	or	
7700:223	Speech and Language of the Deaf Child and Adult	4

OFFICE ADMINISTRATION

Martha W. Vye, *Coordinator*

Administrative Secretarial

Requirements

The administrative secretarial program provides intensive administrative secretarial training in two 15-week semesters. It is designed for the individual who has completed at least two years of college and who wishes to add administrative secretarial skills to enhance career opportunities. Training is provided to type at 50-65 net words-a-minute and to transcribe accurately business correspondence dictated at 70-90 net words-a-minute. The student will develop effective letter writing ability, use new office machines and correlate secretarial skills and administrative ability.

To enroll in this option, a student must have completed at least two years of college.

Courses

Core

2420:211	Basic Accounting I	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:130	Introduction to Office Automation	4
2540:151	Intermediate Keyboarding	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4

Administrative Secretarial Option

2420:103	Role of Supervision in Management	3
2540:150	Beginning Keyboarding	3
2540:171	Shorthand Principles	4
2540:173	Shorthand and Transcription	4

Office Information Management (Prerequisites must be met.)

2540:119	Business English	3
2540:121	Introduction to Office Procedures	3
2540:125	Electronic Business Calculations	2
2540:129	Information/Records Management	3
2540:130	Introduction to Office Automation	4
2540:131	Computerized Document Control	4
2540:247	Automated Office Systems	4
2540:248	Advanced Office Technologies	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:270	Office Software Applications	4

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

2540:119	Business English	3
2540:130	Introduction to Office Automation	4
2540:151	Intermediate Keyboarding	3
2540:253	Advanced Keyboarding/Word Processing	3
2540:263	Business Communications	3
2540:270	Office Software Applications	4
2540:271	Desktop Publishing	3
2540:281	Machine Transcription	3

PEACE STUDIES

John F. Seiberling, L.L.B., *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:

1860:301	Value Concepts on Peace and War	3
3400:340	Peace and War: The Historical Perspective	3

Acceptable Courses

1860:300	Special Topics in Peace Studies	1-3
1860:301	Value Concepts on Peace and War	3
1860:350	Independent Study in Peace Studies	1-3
1860:360	The Vietnam War	3
1860:378	Introduction to Human Rights Concepts	3
1860:390	Multicultural Sensitivity	1
3250:450	Comparative Economic Systems	3
3250:460	Economic Development and Planning for Underdeveloped Countries	3
3250:461	Principles of International Economics	3
3300:489	Seminar in 20th Century Literature and History	3
3350:100	Introduction to Geography	3
3400:340	Peace and War: The Historical Perspective	3
3400:407	United States Diplomacy to 1919	3
3400:408	United States Diplomacy Since 1914	3
3400:417	The United States, Latin America and Imperialism	3
3400:460	War and Western Civilization	3
3700:220	American Foreign Policy	3
3700:310	International Politics and Institutions	4
3700:415	Comparative Foreign Policy	3
3870:150	Cultural Anthropology	4

Conflict Resolution/Management Certificate

The Certificate in Conflict Resolution/Management is on the undergraduate level. It is designed to provide knowledge about theories and skills in resolving conflicts or tensions that can lead to violence.

Students concentrate on a topical focus, either conflict management or resolution, and apply this knowledge to their major area of study.

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.

Admission Procedure

Students must:

- Be formally admitted as an undergraduate or be a postbaccalaureate student.
- If undergraduate, receive concurrence from their major adviser to pursue this area of study.
- Make formal application to the program through form available at the Center for Peace Studies.
- Schedule an interview with program director of Center for Peace Studies.

The Certificate Program in Conflict Resolution/Management consists of a minimum of 21 semester credit hours, 11 of these are to be at the 300/400 level.

Required Courses (6 credits)

1860:230	Introduction to Conflict Management/Resolution	3
1860:430	Integrative Approaches to Conflict Management/Resolution	3

Basic Background Courses (6 credits)

Choose two courses from the following list in consultation with adviser. This requirement is designed to provide general ideas and tools.

1860:378	Introduction to Human Rights Concepts	3
3600:120	Introduction to Ethics	3
3600:170	Introduction to Logic	3
3700:303	Introduction to Political Thought	3
3700:304	Modern Political Thought	3
3870:150	Cultural Anthropology	4
7600:235	Interpersonal Communication	3
7600:325	Intercultural Communication	3

Topical Courses (9 credits)

Choose one of the following options for application of knowledge of conflict resolution/management. In most instances, this will be related to a student's major or minor.

- Business/Economics/Labor
- Community/Social/Family
- Education
- History/Government/Politics

Business/Economics/Labor

2270:111	Collective Bargaining I	3
2270:212	Collective Bargaining II	3
2270:251	Problems in Labor Studies	3
2270:271	Public Sector Labor Relations	3
2880:232	Labor Management Relations	3
3250:330	Labor Problems	3
3250:431	Labor and Government	3
3250:432	Economics and Practice of Collective Bargaining	3
3750:240	Introduction to Industrial/Organizational Psychology	4
3850:443	Industrial Sociology	3
6400:425	Business and Society	3
6500:301	Management: Principles and Concepts	3
6500:302	Introduction to Organizational Behavior	3
6500:341	Personnel Management	3
6500:342	Labor Relations	3
6500:455	Management of Arbitration	3
6500:458	Managerial Arbitration, Mediation, Conciliation	1-3
6500:471	Management Problems	3
6500:473	Management Problems: Personnel	3

Community/Social/Family

2220:110	Social Values and Criminal Justice Process	3
2260:280	Fundamentals of Volunteer Management	3
3750:340	Social Psychology	4
3750:435	Cross Cultural Psychology	4
3850:315	Sociological Social Psychology	3
3850:320	Social Inequality	3
3850:335	Social Behavior in Organizations	3
3850:341	Political Sociology	3
3850:421	Racial and Ethnic Relations	3
3870:461	Language and Culture	3
3870:463	Social Anthropology	3
7400:201	Relational Patterns in Marriage and Family	3
7400:362	Family Life Management	3
7400:401	Family Life Patterns in the Economically Deprived Home	2
7400:404	Adolescence in the Family Context	3
7400:496	Parenting Skills	3
7600:225	Listening	1
7600:227	Nonverbal Communication	1
7600:252	Persuasion	3
7750:270	Poverty in the United States	3
7750:410	Minority Issues in Social Work Practice	3
7750:430	Human Behavior and Social Environment for Social Workers	3

Education

3850:442	Sociology of Education	3
5200:350	Multicultural Education: Concepts, Programs, and Practices	3
5300:485	Classroom Dynamics	2
5550:194	Sports Officiating	2
5610:456	Special Education Programming: Severe Behavior Handicapped	3
5630:483	Preparation for Teaching Culturally Different Youth	3
5850:204	Human Relations in Education	3

History/Government/Politics

3250:450	Comparative Economic Systems	3
3250:460	Economic Development and Planning for Underdeveloped Countries	3
3400:407	U.S. Diplomacy to 1919	3
3400:408	U.S. Diplomacy since 1914	3
3600:324	Social and Political Philosophy	3
3700:220	American Foreign Policy	3
3700:310	International Politics and Institutions	4
3700:326	Politics of Developing Nations	3
3700:415	Comparative Foreign Policy	3
3700:461	Supreme Court and Constitutional Law	3

PLANNING WITH AN EMPHASIS ON CITY OR REGIONAL RESOURCE STUDIES

Dr. Allen Noble, *Department Head*

Requirements

This program is intended to enhance understanding of the planning function and to increase the research and analytical abilities of the person preparing for work in, or who is currently engaged in city, urban, regional, environmental and resource planning. The program is open to the undergraduate, as well as a person with a baccalaureate degree, employed in local agencies doing related work, e.g., urban renewal, community redevelopment, community action, environmental protection and private industry. The person with a degree can enroll as a postbaccalaureate or special student.

Program

- Employment or internship in a planning agency or in an office engaged in related work; or a sincere intention to pursue a professional career in some aspect of government work or planning after graduation.
- A statement by the applicant giving reasons for wishing to participate in the planning certificate program.

Courses**Core**

Complete five of the following:

3250:244	Introduction to Economic Analysis	3
3350:220	Economic Geography	3
3350:433	Urban, Regional and Resource Planning	3
3350:438	World Metropolitan Areas	3
3400:436	The American City	3
3700:380	Metropolitan Politics	4
3850:425	Sociology of Urban Life	3
4300:450	Urban Planning	2

Electives

Each student's program (subject to the program director's approval) is to include six elective courses distributed between professional, technical and research offerings. Three courses will be from the professional listing and three from the technical-research listing. In consultation with the program director, elective courses will be selected from University offerings either in the city planning or regional resource planning emphasis areas. Similar courses completed at other universities, up to five years prior to admission to candidacy, may be approved by the director.

The intent of the elective requirements is to facilitate the development of a diverse perspective which is significant for a person who will be or is already engaged in planning for present and changing future urban, regional, environmental, resource, energy and societal needs. The truly comprehensive planner must have academic acquaintance with a variety of professional and technical approaches to cope with social, geographical, physical design, economical and governmental problems. Selecting courses that duplicate or continue interests already well established in a student's background will be discouraged.

Project

Upon completion of the core and elective course requirements, the student will take 3350:385 *Planning Seminar* (one credit). In this seminar the student will produce a final paper covering a city or regional resource planning topic chosen by the student and approved by the director of the program. Each project will be presented to the seminar class and critically analyzed.

A grade of "C" or better is required in all courses undertaken as part of the certificate program. In the five core courses an average grade of "B" is required.

PROFESSIONAL COMMUNICATION

Dr. Joseph F. Ceccio, Dr. Dudley Turner, *Codirectors*

Requirements

The program will help meet our technological society's growing need for educated people who can develop sophisticated strategies for effective communication of business and technical information. People in the business community increasingly depend on communication to solve complex management, sales and information processing problems. The communication demands of business and industry are significant, and in many ways, different from those dealt with in traditional courses and majors. Undergraduates in various fields and those who already possess a baccalaureate degree will wish to study specifically to meet communication demands. A formal certificate will recognize their preparation for handling the communication needs of business and industry.

Program

3300:390	Professional Writing I	3
3300:391	Professional Writing II	3
7600:309	Publications Production	3
7600:345	Business and Professional Speaking	3

The two 3300 courses listed cannot count toward the 35 credits in English required of English majors.

PROGRAMMING SKILLS ENRICHMENT

Rebecca Marsh, *Coordinator*

The Programming Skills Enrichment Certificate is designed to update the skills and qualifications of the experienced programmer through a selection of courses reflecting recent advances in computer software and development tools.

The student should select 12 hours from the following courses:

2440:125	Lotus 1-2-3	2
2440:151	PC DOS Fundamentals	1
2440:235	Current Programming Topics (Unix/C)	2
2440:243	Information Center Practicum	3
2440:252	JCL	1
2440:262	COBOL Efficiency	2
2440:263	Data Base Concepts	3
2440:267	4GL for Micros: dBase III+	3

REAL ESTATE

James Nolte, *Coordinator*

Requirements

This certificate program in real estate requires a minimum of 18 credit hours. The program of studies has been designed to serve the practicing and prospective real estate broker. The awarding of certificate is not contingent upon completion of a degree program but requires the student to complete the course work with a minimum 2.00 grade-point average. A minimum of 12 credit hours must be earned in the University's Real Estate Program.

Admission

All certificate applicants must apply to the University and meet its admission requirements. The person wishing to pursue a certificate must sign a contract with the Community and Technical College which shall indicate the required course of study and such work that may be transferred from real estate programs outside the University.

Program

Core

2430:105	Real Estate Principles	2
2430:185	Real Estate Law	2
2430:245	Real Estate Finance	2
2430:255	Valuation of Residential Property	2
2430:265	Real Estate Brokerage	2
2430:275	Real Estate Projects	2
2520:212	Principles of Sales	4

Electives — Minimum of one course

2430:115	Elements of Housing Design and Construction	2
2530:125	Elements of Land and Real Estate Development	2
2430:205	Introduction to Real Estate Management	3
2430:215	Essentials of Real Estate Economics	2
2430:225	Industrial Real Estate	2
2430:235	Commercial Real Estate	2

SMALL BUSINESS MANAGEMENT

Jack D. Huggins, *Coordinator*

This program is designed to address the expressed needs of small business students, many of whom are presently, or soon will be, small business owners and are interested in acquiring specific knowledge that will help them in their business immediately. This program would be valuable for many nonbusiness majors who could benefit by this exposure to business concepts. The emphasis is on serving the objectives of those students seeking autonomy in exercising their initiative and ambition, including both traditional and nontraditional students.

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

2420:117	Small Business Development	3
2420:118	Small Business Management and Operations	3
2420:170	Business Mathematics	3
2420:211	Basic Accounting I	3
2420:227	Entrepreneurship Projects	4
2420:280	Essentials of Law	3
2440:120	Computer and Software Fundamentals	2
2540:119	Business English	3

SOVIET AREA STUDIES

Dr. Barbara Clements, *Coordinator*

Requirements

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

Economics

3250:450/550	Comparative Economic Systems	3
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Geography

3350:358	U.S.S.R.	3
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History

3400:458/558	Russia to 1801	3
3400:459/559	Russia since 1801	3

Political Science

3700:300	Comparative Politics	4
3700:322	Soviet and East European Politics	3

SUPERVISION AND MANAGEMENT CERTIFICATE

Stanley B. Silverman, *Coordinator*

The Supervision and Management Certificate Program is aimed at providing knowledge and skills to the new and existing supervisor as well as to the individual who aspires to a supervisory position. The certificate program has been carefully designed to be flexible in order to meet the needs of various organizations and individuals. This program is in response to what many employers in the area have identified as a need that the Community and Technical College could help them meet.

A minimum of 18 semester hours is required.

One course must be taken from each of the following four categories:

Management Theory and Skills

2250:260	Administration in the Public Services	3
2420:103	The Role of Supervision in Management	3
2880:100	Introduction to Manufacturing Management	4

Interpersonal Skills

2040:240	Human Relations	3
2040:251	Human Behavior at Work	3

Communication Skills

2020:121	English	4
2020:222	Technical Report Writing	3
2540:263	Business Communications	3

Math

2030:131	Mathematical Analysis I	4
2420:170	Business Mathematics	3

In addition to the above courses, a minimum of 6 credits must be completed from the following:

2040:247	Survey of Basic Economics	3
2420:121	Office Management	3
2420:202	Personnel Practices	3
2420:211	Basic Accounting I	3
2440:120	Computer and Software Fundamentals	2
2880:210	Controlling and Scheduling Production	2
2880:232	Labor Management Relations	3
2880:241	Quality Control Procedures	3

SURGEON'S ASSISTANT

The program provides skills necessary to function as a surgeon's assistant and all the courses needed to sit for the certifying exam. It will enable students to meet short-range goals in acquiring skills for immediate job placement.

2770:153	Clinical Experience III	5
2770:243	Introduction to Medicine	2
2770:244	History and Physical Evaluation	2
2770:245	Roentgenogram Assessment	1
2770:246	Medical Laboratory Procedures	1
2770:247	Pulmonary Assessment: EKG	2
2770:249	Surgical Anatomy II	3
2770:254	Clinical Experience IV	3
2770:255	Clinical Experience V	5
2770:256	Primary Care: Clinical Experience	2

SURGICAL TECHNOLOGIST

The program provides skills necessary to function as a surgical technologist and all the courses needed to sit for the certifying exam. It will enable students to meet short-range goals in acquiring skills for immediate job placement.

2740:120	Medical Terminology	3
2770:100	Introduction to Surgical Assisting	4
2770:121	Surgical Assisting Procedures I	2
2770:131	Clinical Application I	2
	or	
2770:151	Clinical Experience I*	
2770:222	Surgical Assisting Procedures II	4
	or	
2770:249	Surgical Anatomy II*	
2770:232	Clinical Application II	5
	or	
2770:152	Clinical Experience II*	
2770:233	Clinical Application III	5
3100:130	Principles of Microbiology	3
3100:206	Anatomy and Physiology	4
3100:207	Anatomy and Physiology	4

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 (ESL) at the elementary or high school level or who wish to obtain an initial qualification in teaching ESL in order to teach in settings other than the Ohio public school system.

The program is designed to introduce the student to the central issues in the theory and practice of teaching English to non-native speakers through courses in modern and applied linguistics, in second language pedagogy and in related disciplines.

Students who do not have English as a native language must demonstrate adequate proficiency in English with a valid TOEFL score of at least 550.

Program

This certificate requires the completion of four core courses and two elective courses for a minimum of 18 credits.

Core

3300:473	Special Topics: Teaching ESL: Theory and Method	3
3300:489	Special Topics: Grammatical Structures of English	3
5630:481	Multicultural Education in the U.S.**	3
	or	
3300:489	Special Topics: Sociolinguistics**	3
5630:487	Techniques for Teaching ESL	3

Electives

3300:371	Introduction to Linguistics	3
3300:389	Special Topics in Linguistics	3
3300:470	History of the English Language	3
3300:472	Syntax	3
3300:489	Special Topics: Sociolinguistics††	3
3580:405	Spanish Linguistics	4
3870:461	Language and Culture	3
5630:485	Teaching Reading and Language Arts to Bilingual Students	4
7600:325	Intercultural Communication	3
7700:230	Speech and Language Development	3
7700:430	Aspects of Normal Language Development	3

*Clinical Experience I and II will be accepted in place of Clinical Applications I and II for students who have completed the Surgeon's Assistant Option. Surgical Anatomy II will be accepted in place of Surgical Assisting Procedures II for students who have completed the Surgeon's Assistant Option.

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

†The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.

††May not be taken both as an elective and as a core course.

TRANSPORTATION STUDIES

Arthur George, *Coordinator*

2560:110	Principles of Transportation	3
2560:118	Transportation Rate Systems	3
2560:221	Traffic and Distribution Management	3
2560:222	Microcomputer Applications in Transportation	3

In addition to the above core, a minimum of six semester credits must be completed from the following:

2560:115	Motor Transportation	3
2560:116	Air Transportation	2
2560:117	Water Transportation	2
2560:224	Transportation Regulation	3
2560:227	Transportation of Hazardous Materials and Waste	2

VOLUNTEER PROGRAM MANAGEMENT†

John Mumper, *Coordinator*

This program is intended for individuals who wish to enhance their knowledge of volunteer program management. As community and social service organizations continue to rely on knowledgeable, well-trained volunteers, the role of the manager of the volunteer programs continues to be highly valued. This program is not limited to Community Services majors.

This certificate is generally designed for individuals in one of the following categories:

- The person with no degree but who is contemplating working in a social/community service organization, especially with volunteers.
- The person with a degree who has not had specialized training, but would like to be a director/coordinator of an organization's volunteer program.
- Those persons working in or with volunteer programs who would like to upgrade their knowledge and skills.

Persons interested in this program should consult with the Coordinator of Community Services Technology or an academic adviser in the Community and Technical College.

Requirements

2260:100	Introduction to Community Services	3
2020:121	English	4
2020:222	Technical Report Writing	3
2040:240	Human Relations	3
2260:278	Techniques of Community Work	4
2260:279	Technical Experience: Community and Social Services	5
2260:280	Fundamentals of Volunteer Program Management	3
2260:281	Recruitment and Interviewing Volunteers	3

WOMEN'S STUDIES

Dr. Carole Garrison, *Director*

Requirements

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

†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.

Admission

To participate in the program, the student must:

- Be formally admitted to The University of Akron as an undergraduate seeking a baccalaureate degree or a postbaccalaureate student or as special admission for a free-standing certificate.
- Make written application to the program countersigned by the student's major academic adviser.
- Receive written notification of admission from the Director of the Women's Studies Program.
- Consult with the Director of the Women's Studies Program to formulate a program of study.

Program

Requirements

Total Credits Required: 19.

Core:

1840:300	Introduction to Women's Studies	3
1840:493	Individual Studies on Women	3
1840:499	Seminar in Women's Studies	1

Electives: 12 credits (two courses 300-400 level).

(One course from each of the following three areas: social sciences, humanities, fine and applied arts.)

†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

Social Science

3400:336	Women in Modern Europe	3
3400:338	Women in the United States	3
3400:341	Soviet and U.S. Women in 20th Century	3
3400:402/502	Seminar: 20th Century Women Writers	3
3400:437	American Family History	3
3750:480	Special Topics in Psychology: Psychology of Women	3
3850:344	Sociology of Sex Roles	3
3850:423/523	Sociology of Women	3

Humanities

3300:282	Drama Appreciation: Women in Modern Drama	3
3300:386	Women in Modern Novels	3
3300:389	Special Topics: Ethnic Women in Literature	3
3300:489/589	Seminar: American Women Poets	3
3300:489	20th Century Women Writers	3
3300:490	Workshop: Readings of the Women's Movement 1960-1984	2
3580:422	Special Topic: Women as Protagonist and Creator in Contemporary Spanish Novels	3
3580:422	Special Topics: Women Authors in Latin America	3

Fine and Applied Arts

7400:201	Relational Patterns in Marriage and Family	3
7400:440	Family Crises	3
7400:442	Human Sexuality	3
7600:450	Special Topics: Women and Minorities in Films	3
7600:450	Special Topics: Women Speakers/Social Change	3
7750:411	Women's Issues in Social Work Practice	3

Electives in Education, Institute for Life-Span Development, Community and Technical College, and Women's Studies Workshops

1840:490/590	Workshop: Women's Studies Lecture Series	1
1840:490	Aggression Suppression: Women as Victims	2
1850:490	Workshop: Women in Mid-Life	2
2200:290	Special Topics: Women and Chemical Dependency	2
2540:265	Women in Management	3
5100:480	Special Topics: Historical and Current Perspectives on the Education of Women	3



SECTION **Seven**

**Research centers and institutes;
continuing education, public
services and outreach**

F A C T S

*Campus buildings in their
previous lives:*

- **Gallucci Hall (now a dormitory):
Holiday Inn**
- **The Ballet Center:
Episcopal church**
- **Folk Hall (School of Art building):
car dealership**
- **Spicer Hall: elementary school**
- **Buckingham Center for Contin-
uing Education: railroad station**

Research Centers and Institutes

Claibourne Griffin, Ph.D., *Interim Associate Vice President for Research and Graduate Studies; Dean of Buchtel College of Arts and Sciences*

Frank Kelley, Ph.D., *Dean, College of Polymer Science and Engineering (Member)*

Nicholas Sylvester, Ph.D., *Dean, College of Engineering, (Member)*

Charmaine C. Streharsky, M.S.T.E., *Director of Research Services and Sponsored Programs*

Ted Mallo, J.D., *Assistant Professor, General Counsel, (Member, ex officio)*

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 is developed. And with the accelerating tempo of our times, there is an increased call for universities to provide more information to enable society to cope.

The University of Akron is alive to this challenge and has sought to develop its research program with an eye to the needs of the society it serves. Here the emphasis is on work that is relevant, not on mere knowledge for knowledge's sake. One consequence of the University's concern with relevant research has been the number of interdisciplinary teams that have been put together to tackle specific problems. For instance, problems in connection with water pollution have used the services of chemists, biologists and chemical, mechanical and civil engineers. While the planning and organization of a research project is usually carried out by or with the assistance of a faculty member, both graduate and undergraduate students have the opportunity to participate, depending on the nature of the project and the skills and knowledge required.

Sponsored research activities on campus are coordinated by the Research Council founded in 1962; it also serves as the policy-making body for research. The council consists of the associate vice president for research and graduate studies, the director of research services and sponsored programs, various college deans, and general counsel.

Ray C. Bliss Institute of Applied Politics

John C. Green, Ph.D., *Director*

Denise L. Baer, Ph.D., *Associate Director*

The Ray C. Bliss Institute of Applied Politics is a public education and research adjunct of The University of Akron and its Department of Political Science. The broad purposes of the institute, in keeping with the career of its namesake and the respect that he gained over many years in the political world, are: to give all citizens, and particularly young people, an opportunity to learn how to become active and competent in political life; to help maintain a tradition of ethical public service in politics; to foster useful relationships between applied politics and political science; to promote public comprehension of political organizations and the requirements for their effectiveness; to improve understanding of continuity and change in American political institutions; and to provide advanced experience in practical politics to students with primary career goals in political science.

Institute for Biomedical Engineering Research

Daniel B. Shaffer, Ph.D., *Director*

This institute was established in 1979 to promote interdisciplinary studies in the rapidly growing areas of knowledge which overlap the fields of biology and medicine, on the one hand, and engineering and the physical sciences, on the other. It conducts seminars, courses and degree programs in biomedical engineering in association with the College of Engineering and individual departments.

In addition to its research and educational functions, the institute provides a research service to local hospitals and industry, as well as to private and government agencies. The premise for this program is that the combined resources of the University, Northeastern Ohio Universities College of Medicine and

affiliated organizations will often permit more cost-effective solutions than would be possible by an individual or group doing the research independently.

The work of the institute is carried out by faculty of the Department of Biomedical Engineering in association with "members" selected from the faculties of The University of Akron and Northeastern Ohio Universities College of Medicine, as well as from the ranks of area physicians, engineers and scientists. The institute and the department occupy the third floor of the Engineering Research Center on the north edge of the campus.

Center for Economic Education

Fred M. Carr, Ph.D., *Director*

The center exists to improve the economic literacy of individuals to help them function competently as citizens, producers and consumers.

The center conducts workshops, seminars and economic programs for teachers, students and interested groups. It provides consulting services in the area of economic education and acts as a clearinghouse for the gathering and dissemination of economic education materials and programs. It also fosters an understanding and appreciation of the American economic system.

Center for Environmental Studies

Jim L. Jackson, Ph.D., *Director*

The Center for Environmental Studies matches the expertise of 95 affiliates in 33 disciplines with the needs of students seeking study and research opportunities in complex environmental issues. Since its founding in 1970, the center has sponsored, or in other ways supported, activities appropriate to the goal of attaining a quality environment for mankind.

The center coordinates special forums, workshops and seminars that address major issues. Examples include the National Energy Forum, the World Food Forum, and Evaluation of Environmental Data. 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 Cuyahoga River Interpretive Center. Water research is a major role of the Center.

Center for Family Studies

Helen K. Clemminshaw, Ph.D., *Director*

Mary C. Rainey, Ph.D., *Associate Director of Development*

Nancy B. Miller, Ph.D., *Associate Director of Research*

The Center for Family Studies, established in 1979, was designed to stimulate and encourage the interdisciplinary study of the family. It serves both the University and the community by fostering collaboration between faculty, students, practitioners and community leaders on curriculum development, educational conferences and seminars, research and training, and public policy relevant to important family issues.

The Center is represented by faculty from five colleges and over 15 disciplines. It also includes leaders from various community systems, such as the schools, hospitals, courts, churches, mental health, social and health care agencies. In addition, the Center has a fellows program in which outstanding faculty and community leaders are named as either fellows, adjunct fellows or senior fellows.

Presently, the Center has two graduate interdisciplinary certificate programs. The *Home-Based* certificate program is funded by grant monies from the Ohio Department of Mental Health and directed by Dr. Carol Pastore. The *Divorce Mediation* certificate program has received research funds from the Ohio Supreme Court and the Ohio Commission on Dispute Resolution and Conflict Management.

Any student, faculty member or community person interested in family issues is invited to call the director to learn how they can participate or learn more about the Center's activities.

Training Center for Fire and Hazardous Materials

David H. Hoover, M.S., *Director*

The Training Center for Fire and Hazardous Materials brings the University, government and industry together into one comprehensive regional center to integrate educational programs, fire and hazardous materials training and other applications of fire and safety technology. The center coordinates seminars and workshops presented by the Federal Emergency Management Agency (FEMA), the Division of State Fire Marshal and other related organizations. Training in all phases of hazardous materials containment and fire prevention and control is

provided under contract to various municipalities, industries and agencies. The programs are supported by the faculty of the Fire Protection Technology degree program in association with other state and nationally recognized professionals.

Institute for Futures Studies and Research

Gary Gappert, Ph.D., *Director*

The Institute for Futures Studies and Research exists to initiate and provide comprehensive programs in salient and vital policy research, including a structural framework which encompasses strategic planning, environmental scanning, trends analysis and other innovative research methods.

The Institute for Future Studies and Research was established in 1978, with its focus on interdisciplinary courses, lectures, publications and activities relating to relevant issues which will impact the future of the local, state, national, and international arenas. It cooperates with the Center for Urban Studies and other research institutes.

Since 1987, The Ohio Issues Scanning Programs, through the Ohio Scanning Network (OSN), continues to research and analyze emerging public policy issues in the state of Ohio and beyond. In addition, in 1990, the OSN began to provide and disseminate viable options to a diverse range of policy problems. *Ohio Foresight* is a bimonthly publication of the Ohio Scanning Network.

More recently, the institute has undertaken initiatives relating to international activities and global studies, with a focus on education, economic and political change as well as policy development. The Institute has cooperated with the U.S. Peace Corps in both Washington, D.C. and Africa on its new urban initiatives. An Ohio-Quebec Urban Symposium was conducted in 1990 as an effort to continue promoting Great Lakes collaboration and Canadian studies. Discussions have been held in several Eastern Europe countries concerning urban planning and future studies. In these emerging activities, the Institute encourages involvement and cooperation of faculty, staff and students from a variety of disciplines.

Through its relationship with the Department of Urban Studies and The Center for Urban Studies, the Institute has organized and produced three books relating to the urban future including the 1990 publication, *Cities in a Global Society*. It has also sponsored major conferences on George Orwell and Aldous Huxley in cooperation with the Ohio Humanities Council.

Institute for Life-Span Development and Gerontology

Harvey L. Sterns, Ph.D., *Director*

Isadore Newman, Ph.D., *Associate Director*

Evelyn Sutton, M.A., *Program Coordinator*

Jerome Kaplan, Ph.D., *Program Administrator*,
Nursing Home Administration

The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit certificate programs in gerontology at the undergraduate and graduate levels. In addition, this certificate is included in the Ohio Board of Examiners of Nursing Home Administrators approved course of study in Nursing Home Administration which combines a Bachelor of Science degree in Industrial Management (Personnel Option) with a certificate in Gerontology.

Faculty fellows at the institute representing 22 University departments conduct research, and 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.

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.

Center for Nursing

Maryhelen Kreidler, R.N., Ed.D., *Director*

The Center for Nursing is the practice arm of the College of Nursing. Since 1981 it has provided a clinical laboratory for students and faculty. The center provides nursing services to campus students, faculty and staff, and community residents of all ages. These services include health assessments and nursing physicals,

stress management and self-care assistance, family education and group support sessions. Outreach to the elderly, women, children and community agencies is also a major emphasis of the center.

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

Hon. John F. Seiberling, L.L.B., *Director*

The Center for Peace Studies provides students with the opportunity for an interdisciplinary course of study in one of the related fields of international peace or conflict resolution and management. Course programs draw on the resources of a wide spectrum of the University's academic departments. Upon completion of all selected courses, students receive not only academic credits for the courses but a Certificate in Peace Studies or a Certificate in Conflict Resolution/Management, respectively. The Center also sponsors workshops for teachers, special campus programs, and research projects. It also collaborates with community organizations and peace centers on other campuses.

Institute of Polymer Engineering

James L. White, Ph.D., *Director*

The Institute of Polymer Engineering carries out fundamental and applied research in polymer processing, engineering performance and associated characterization.

The institute, founded in 1983, seeks to be a major intellectual and research resource in northeast Ohio. The institute 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

Darrell H. Reneker, 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, an applied research group, a macromolecular modeling center, and a mini pilot plant for polymer synthesis. It is the principal organization responsible for external funding of research projects and graduate fellowships in polymer science.

Process Research Center (PRC)

Sunggyu Lee, Ph.D., *Director*

Kathy L. Fullerton, Ph.D., *Assistant Director*

The Process Research Center (PRC), founded in 1990, focuses on fundamental and applied research involving new chemical processes and novel materials.

The specialties of the PRC include chemical reactions, separation technology, new polymeric materials, biotechnology, and environmental engineering. In conjunction with this, the Center operates several scale-up and minipilot plant facilities.

The PRC aims at responding more positively to the needs of industries and enhancing cooperation between the University and industries. Great opportunities are available for both graduate and undergraduate students to conduct practical research.

Small Business Institute

Joseph C. Latona, Ph.D., *Director*

The Small Business Institute was established in 1973 and was the first Small Business Institute funded in Northern Ohio. The Small Business Institute's objective is to offer management assistance counseling to area organizations through the utilization of senior students in the College of Business Administration, working as advisers under the supervision of College of Business Administration faculty. Nearly 300 firms have been serviced by the institute since its founding. It is an integral part of the Akron/Summit Industrial Incubator project.

Center for Taxation Studies

Richard W. Metcalf, D.B.A., *Director*

The Center for Taxation Studies, established in 1985, is a joint venture of the College of Business Administration and the School of Law. Funding for the center is provided under an Academic Challenge grant, part of the Ohio Board of Regents' Selective Excellence Program.

The center focuses on studies in tax policy which are directed toward legislative changes regarding federal, state and local taxation and their effect on individuals and businesses. Further, the center sponsors and monitors research by tax scholars and professionals. It also conducts taxation seminars, presentations and programs directed toward both the tax professionals and laity. The center oversees operation of the Tax Clinic and the Volunteer Income Tax Assistance (VITA) site for electronic filing. Studies concerning taxation are coordinated by the center with other disciplines on campus. For example, projects have been undertaken in the following areas: business, law, political science, urban studies, finance, economics and English (document design).

Center for Urban Studies

James L. Shanahan, Ph.D., *Director*

Gail A. Sommers, M.A., *Assistant Director*

One of the greatest challenges for an urban university is utilizing its resources for resolving urban problems and improving the urban environment. The Center for Urban Studies (CUS), established in 1965, was this University's response to that challenge. The center develops research and professional service projects in response to the needs of the urban community and to perceived urban issues. The Center's objectives are to apply new methods and to experiment with new approaches to solving urban problems. The main portion of CUS activities is supported by grants and contracts which faculty and staff bring to the University.

The Center provides advisory and research expertise in a wide range of areas to both the public and private sectors. Every effort is made to identify political, economic, and social issues of the utmost importance to the future of Ohio communities, their leaders, businesses, institutions, community groups, and citizens.

The Center, a part of the Buchtel College of Arts and Sciences, strives to stimulate within the University creative solutions to urban problems by coordinating the urban perspective of the various disciplines and professions. This multidisciplinary approach encourages faculty and graduate student participation from all departments with an urban focus. With its programs in research and professional service, the center provides the setting and facilities through which interested faculty and graduate students do become involved in urban research or professional service activities to the urban community. For many graduate students, experience gained in the Center for Urban Studies becomes an important complement to formal classroom training in their career preparation.

Continuing Education, Public Services and Outreach (CEPSO)

Janne Dunham, Ph.D., R.N., *Interim Associate Provost and Dean*
Dan Newland, Ph.D., *Interim Associate Dean*

The Continuing Education, Public Services and Outreach division at The University of Akron is based on the missions of the University which relate to providing education and technical assistance to the citizens, agencies and businesses of the area, region and nation. These mission statements direct the University commitment to:

- Provide learning opportunities for the full spectrum of students.
- Prepare career-oriented persons for professional leadership roles in area, regional, national and international organizations and institutions.
- Offer educational and professional services to its various publics within available resources and established continuing education and outreach philosophies.
- Maintain its firmly established tradition of concern for the higher educational and cultural needs of our area.

The University outreach mission of The University of Akron is implemented through an organized structure within the senior vice president and provost's office. The associate provost for Continuing Education, Public Services and Outreach coordinates and takes a leading role in University efforts for all such University activities.

Continuing Education, Public Services and Outreach is a catalyst division, which focuses the skills and expertise of University personnel and units on the issues and problems of urban society and enhances the development of its citizens as leaders and members of the work force. Leaders from all walks of life can improve or maintain their professional competence, meet the demands of a changing society and prepare to use new skills to meet both personal and professional goals. The Center for Continuing Education, located in the Lisle M. Buckingham Center for Continuing Education, is the University's focal point for campuswide outreach services. BCCE is also the center for The University Activities Calendar and Conference Services.

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 in an outreach center in Barberton. Adult noncredit education and outreach to the community have remained part of the University's basic fabric throughout the years.

PROGRAMS DIVISION (CREDIT)

Judy Vardon, *Coordinator, Special Credit and Extension Credit Programs*

(The Credit Programs are as follows:)

Evening Study

The University of Akron has a rich and historic tradition of service to students who attend classes after 5 p.m. Evening class offerings run the full range from the associate level through the Ph.D. level.

Evening study is a continuation of daytime college campus life. Credit courses taken in the evening have the same high academic value. Full-time faculty members teach and are available to the student in the evening. Part-time faculty represent a complete array of academic backgrounds and practical experiences to enrich the quality of course work.

The president and his administrative staff and the collegiate deans are vitally concerned with supporting the University's effort to serve the needs of the evening students — all 7,000 of them.

Non-traditional Student Government coordinates various cocurricular activities. Organizations established for the evening student include Alpha Sigma Lambda, scholastic honorary; Gamma Beta, evening social sorority; and Chi Sigma Nu, evening social fraternity.

Summer Sessions

Summer sessions re-emphasize 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 myriad of student appetites and needs of the regular full-time student, the recent high school graduate, the transfer student, the part-time student and, equally important, those who want to rejuvenate their intellectual energies through summer study.

Summer Sessions serve more than 12,000 students, young and old, at all levels from noncredit avocational courses to the professional and Ph.D. levels. Faculty, students, administrators, and the community contribute talents and resource to further this dynamic, academic, and cultural process.

Extension Credit Courses

Off-campus credit courses are offered at a variety of locations throughout north-eastern Ohio as well as from the East Coast to the Rockies. Arrangements can be made through the Programs Division (Credit) office. The locations provide convenience to the students and also take advantage of unique laboratory or on-site training opportunities.

Academic Workshops

Academic workshops are designed to cover specific areas of knowledge in a shorter time period. They are offered throughout the year to serve the continuing professional education needs of a broad spectrum of regional professionals.

PROFESSIONAL DEVELOPMENT (NONCREDIT)

Richard Mueller, Ph.D., *Assistant Director*

Definition and Scope

In 1983, the Ohio Board of Regents defined noncredit continuing education as an institutionally sponsored offering which carries no credit toward a degree (e.g., associate, baccalaureate, or higher degree). Noncredit does not include, however, offerings providing Continuing Education Units (CEUs) or similar professional certifications. Most licensed professors in Ohio now require continuing education as a criterion for license renewal.

Curriculum categories include:

- Skill training and development
- Professional and career enhancement programs
- Computers — end-user and business computer training
- Recreation, health and fitness

On-Site Contract Training

Continuing Education offers jobs and career-related training at local and regional service organizations to help make more efficient use of training dollars. More than 100 classes are held on-site in business and industry annually. Program consultants visit the site, discuss the particular work situation, analyze needs and develop a customized training program. The on-site training and educational programs are designed specifically to meet the requirements of the organization. Scheduling is done at the organization's convenience and the instructors are provided through The University of Akron.

Conferences and Seminars

The staff conducts professional education seminars and conferences and assists in program planning for University and community organizations. The department offers development of on-site training for business, industry, government, education and nonprofit organizations. These programs may be local, statewide, national or international in scope.

Teleconferencing

The University has teleconferencing technology which makes outreach programming available for academic seminars, faculty development, continuing education, and research briefings to national/international audiences from programming available through worldwide resources.

OFFICE OF INTERNATIONAL PROGRAMS

Joseph Navari, Ph.D., *Director*

The Office of International Programs has the following administrative responsibilities: the administration of The University of Akron Study Abroad programs; service to international students and scholars; the student Fulbright program; agreements between The University of Akron and foreign institutions; international summer research awards; the College Ambassador program; and international internship placements.

The Office of International Programs acts in a coordinative and facilitative role with University units which have international involvements or programs such as: the admission of international students; the advising of international students; the English Language Institute; faculty exchanges and joint research projects; and departmental or collegiate international field study or other programs.

The University serves a community that is international in scope and interest. The industries of Northeast Ohio do business around the world. There are many foreign-owned businesses here as well as foreign residents. Northeast Ohio is a major center of polymer research and the manufacture of synthetic materials attracting worldwide attention. The University's foreign population numbers more than 1,200 students and scholars, representing approximately 89 countries. The University's faculty have broad international interest and have traveled widely.

The Office of International Programs develops programs to enhance the international perspective and sensitivities of UA students. These programs are campus-wide, fostering intercultural learning, enhancing self-awareness and broadening student and faculty perspectives on international issues and ways of life around the world. Sections of this bulletin contain detailed descriptions of the Study Abroad programs, the services provided to international students and scholars, and the other activities supporting the educational mission of the Office of International Programs.

ADULT RESOURCE CENTER

Sandra Edwards, M.A., *Director* N.C.C., N.C.C.C., L.P.C.

The Adult Resource Center (ARC) offers career and life planning services to individuals and business organizations. Through workshops and individual assistance, people learn to assess their skills, abilities, and interests to maximize their career potential. ARC helps individuals set personal, career, and educational goals. The Adult Resource Center serves as a training center for undergraduate and graduate students interested in adult development and career guidance, management and communication.

Sixty Plus (+) Program

Sixty Plus students taking classes for audit are exempt from payment of tuition fees and general service fees. (State Law 3345.27). However, Sixty Plus students are expected to pay for books, lab and instructional fees, and \$30 for parking under five credit hours, \$50 for over five credit hours per semester. (This service does not apply to noncredit Continuing Education courses).

To be eligible for this program, you must be 60 years of age or older and a resident of Ohio for at least one year. Under this program you are entitled to audit credit classes on a space-available-only basis. Space is determined after the degree-seeking students have registered.

For further information regarding course selection, guidance and/or registration, contact the Adult Resource Center at (216) 972-7448.

PROMOTIONAL SERVICES

Eloise Lafferty, B.A., *Director*

The Promotional Services division aids and advises in the production of catalogs, brochures, fliers, fact sheets, newspaper advertising, and other marketing activities appropriate to promote University outreach activities.

BUSINESS SERVICES

Denise Garrett-Brown, A.A., *Director*

The Business Services division processes the registrations for all noncredit courses, conferences, seminars, credit academic workshops, off-campus courses, and studies abroad activities. Transcripts and certificates for noncredit participants are provided by this office. The unit also renders budget cashing, personnel, and reports functions for University outreach activities.

UNIVERSITY ACTIVITIES CALENDAR

Carol Bowman, *Coordinator*

The University Activities Calendar is located within the construct of the outreach office. However, it retains its own identity since it is involved with scheduling all activities and rooms for the University.

Anyone needing to use University facilities, or any University group needing to make arrangements for use of facilities, should call (216) 972-6000 and make such arrangements through the coordinator of University Activities Calendar.

People desiring information about any function on campus may call the above number 24 hours-a-day and seven days a week.

SECTION Eight

Courses of Instruction



F A C T S

There are more students attending classes on The University of Akron's main campus than on any Ohio campus except two. The five most populous Ohio campuses:

1. The Ohio State University 53,901
2. University of Cincinnati 30,611
3. The University of Akron 28,801
4. University of Toledo 24,271
5. Kent State University 24,211

Course Numbering System*

INDEX

Department of Developmental Programs

1020 Developmental Programs

English Language Institute

1030 English Language Institute

University College

1100 General Studies

Air Force ROTC

1500 Aerospace Studies

Army ROTC

1600 Military Science

Interdisciplinary Programs

1800 Divorce Mediation
 1810 Afro-American Studies
 1820 Home-based Intervention Therapy
 1830 Environmental Studies
 1840 Women's Studies
 1850 Institute for Life-Span Development and Gerontology
 1860 Peace Studies
 1870 Honors Program
 1880 Medical Studies
 1890 Environmental Health

Community and Technical College

2000 Cooperative Education
 2015 Distinguished Student Program
 2020 Associate Studies
 2030 Associate Studies — Mathematics
 2040 Associate Studies — Social Sciences
 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
 2290 Legal Assisting Technology
 2420 Business Management Technology
 2430 Real Estate
 2440 Computer Programming Technology
 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 Care
 2840 Chemical Technology
 2860 Electronic Technology
 2870 Automated Manufacturing Technology
 2880 Manufacturing Technology
 2900 Instrumentation Technology

2920 Mechanical Technology
 2940 Drafting and Computer Drafting Technology
 2980 Surveying and Construction Technology

Buchtel College of Arts and Sciences

3000 Cooperative Education	3460 Computer Science
3100 Biology	3470 Statistics
3110 Biology/N.E.O.U.C.O.M.	3480 General Mathematical Sciences
3120 Medical Technology	3500 Modern Languages
3130 Cytotechnology	3520 French
3150 Chemistry	3530 German
3200 Classics	3550 Italian
3210 Greek	3570 Russian
3220 Latin	3580 Spanish
3250 Economics	3600 Philosophy
3300 English	3650 Physics
3350 Geography	3700 Political Science
3370 Geology	3750 Psychology
3400 History	3850 Sociology
3450 Mathematics	3870 Anthropology
	3980 Urban Studies

College of Engineering

4100 General Engineering	4450 Engineering Computer Science
4200 Chemical Engineering	4600 Mechanical Engineering
4300 Civil Engineering	4800 Biomedical Engineering
4400 Electrical Engineering	4980 Construction Technology

College of Education

5000 Cooperative Education
 5100 Educational Foundations
 5200 Elementary Education
 5250 Reading
 5300 Secondary Education
 5400 Technical and Vocational Education
 5550 Physical Education
 5560 Outdoor Education
 5570 Health Education
 5600 Educational Guidance and Counseling
 5610 Special Education
 5620 School Psychology
 5630 Multicultural Education
 5700 Educational Administration
 5800 Special Educational Programs
 5850 Educational Technology
 5900 Higher Education Administration

College of Business Administration

6000 Cooperative Education	6500 Management
6200 Accountancy	6600 Marketing
6400 Finance	6800 International Business

College of Fine and Applied Arts

7000 Cooperative Education
 7100 Art
 7400 Home Economics and Family Ecology
 7500 Music
 7510 Musical Organizations
 7520 Applied Music
 7600 Communication
 7700 Communicative Disorders
 7750 Social Work
 7800 Theatre
 7810 Theatre Organizations
 7900 Dance
 7910 Dance Organizations
 7920 Dance — Performance

College of Nursing

8000 Cooperative Education
 8200 Nursing

School of Law

9200 Law

College of Polymer Science and Polymer Engineering

9841 Polymer Engineering
 9871 Polymer Science

*A more detailed explanation of the numbering system can be found in "Course Numbering Systems," Section 3 in this Bulletin.

Department of Developmental Programs

University College

GENERAL STUDIES

1100:

- 101 UNIVERSITY ORIENTATION** *1 credit*
Acquisition of the skills, techniques, information, and strategies necessary to aid new students in their transition from high school or work to the college environment.
- 105 INTRODUCTION TO PUBLIC SPEAKING** *3 credits*
Introduction to principles and practice of speaking by reading examples of speeches, studying techniques and methods employed and applying them in a variety of speaking situations.
- 106 EFFECTIVE ORAL COMMUNICATION** *3 credits*
Principles of communication in speaker-audience, group and informal settings, and application of the principles in speeches, group discussions and other oral and written assignments.
- 111,2 ENGLISH COMPOSITION I, II** *4 credits each*
Sequential. Proficiency in reading and writing of English is obtained. Reading materials used are literary works of our Western tradition.
- 115,8 INSTITUTIONS IN THE UNITED STATES** *3 credits each*
Nonsequential. Descriptive and comparative study of development of modern American institutions. Covers various aspects of growth and elaboration of American governmental, social and economic institutions.
- 120-83 PHYSICAL EDUCATION** *½ credit each*
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).*
- 120 ARCHERY** **145 SQUASH RACQUETS**
- 121 BADMINTON** **146 SWIMMING (beginning)**
- 122 BASKETBALL** **147 SWIMMING (intermediate)**
- 123 BOWLING** **148 SWIMMING (advanced)**
- 124 CANOEING** **149 TEAM HANDBALL**
- 125 DIVING** **150 TENNIS (beginning)**
- 126 FITNESS AND WELLNESS†** **151 VOLLEYBALL**
- 127 GOLF** **152 WATER POLO**
- 128 GYMNASTICS (apparatus)** **153 WATER SAFETY†**
- 129 GYMNASTICS (tumbling)** **154 WRESTLING**
- 130 HANDBALL** **155 BASIC KAYAKING†**
- 131 INDOOR SOCCER** **170 VARSITY BASEBALL**
- 132 KARATE†** **171 VARSITY BASKETBALL**
- 133 LIFEGUARD TRAINING†** **172 VARSITY CROSS COUNTRY**
- 134 MODERN DANCE** **173 VARSITY FOOTBALL**
- 135 RACQUETBALL** **174 VARSITY GOLF**
- 136 RUGBY** **175 VARSITY SOCCER**
- 137 SAILING** **176 VARSITY SOFTBALL**
- 138 SCUBA** **177 VARSITY SWIMMING**
- 139 SELF DEFENSE†** **178 VARSITY TENNIS**
- 140 SKIING (cross country)** **179 VARSITY TRACK**
- 141 SKIING (downhill)** **180 VARSITY WRESTLING**
- 142 SOCCER** **181 VARSITY VOLLEYBALL**
- 143 SOCIAL DANCE** **182 VARSITY RIFLERY**
- 144 SQUARE AND FOLK DANCE** **183 VARSITY CHEERLEADING**
- 191 SPECIAL TOPICS: GENERAL STUDIES** *1-4 credits*
- 199 SPECIAL TOPICS: GENERAL STUDIES PHYSICAL EDUCATION** *5-2 credits*
- 221 NATURAL SCIENCE: BIOLOGY** *3 credits*
Designed for non-science majors to illustrate fundamental concepts of living organisms with emphasis on mankind's position in, and influence on, the environment.
- 222 NATURAL SCIENCE: CHEMISTRY** *3 credits*
Designed for non-science majors. Introduction to chemical principles at work in humans and in the environment.

*Varsity sports are one credit each.

†One credit each. Two periods each week.

DEVELOPMENTAL PROGRAMS

1020:

- 040 BASIC WRITING I** *4 credits**
Provides intensive practice in composition skills: grammar, sentence structure, and essay writing.
- 042 BASIC WRITING II**
Provides additional practice in the basic writing skills required for college composition.
- 050 BASIC MATHEMATICS I** *4 credits**
Introduces the basic concepts of elementary algebra and provides an extensive review of arithmetic operations.
- 052 BASIC MATHEMATICS II**
Designed to review and strengthen skills needed for credit mathematics courses.
- 060 COLLEGE READING** *4 credits**
Designed to improve general reading ability and develop effective study strategies with emphasis on vocabulary development, basic comprehension, textbook reading, study and test-taking techniques.
- 062 COLLEGE READING II** *4 credits**
Provides additional practice in reading comprehension skills and study techniques.
- 071,2 DEVELOPMENTAL NATURAL SCIENCE: CHEMISTRY**
Review of mathematics as applied in chemistry; fundamental principles in scientific approach to solving problems; basic principles of general chemistry. May enroll for a second semester.
- 1021:299 SPECIAL TOPICS: DEVELOPMENTAL PROGRAMS** *1 credit*
Selected topics and subject areas of interest in developmental education.

ENGLISH LANGUAGE INSTITUTE

1030:

- 091 ENGLISH LANGUAGE INSTITUTE: WRITING**
Provides intensive instruction in English writing for native speakers of languages other than English who are planning to seek admission to a United States university.
- 092 ENGLISH LANGUAGE INSTITUTE: READING**
Provides intensive instruction in vocabulary and reading skills designed to develop the English reading ability of native speakers of languages other than English who are planning to seek admission to a United States university.
- 093 ENGLISH LANGUAGE INSTITUTE: SPEAKING/GRAMMAR**
Provides intensive instruction in English grammar, with an emphasis on oral skills, for native speakers of languages other than English who are planning to seek admission to a United States university.
- 094 ENGLISH LANGUAGE INSTITUTE: LISTENING**
Provides intensive laboratory and class instruction designed to improve the English listening skills of native speakers of languages other than English who are planning to seek admission to a United States university.
- 095 ENGLISH LANGUAGE INSTITUTE: COMPREHENSIVE**
Provides intensive instruction in English writing, reading, listening and speaking for speakers of languages other than English who are planning to seek admission to a United States university. Offered only during the summer.

*Institutional credit only.

- 223 NATURAL SCIENCE: GEOLOGY** 3 credits
Study of basic principles and investigative techniques in various fields of geology with emphasis on relationship of geological processes to society.
- 224 NATURAL SCIENCE: PHYSICS** 3 credits
Introduction to, and commentary upon, some of the most significant principles, perspectives and developments in contemporary physics. Intended for non-science majors.
- 320,1 WESTERN CULTURAL TRADITIONS** 4 credits each
Sequential. Prerequisite: 64 credits or permission. Introduction to human experiences of the past as manifested in the ideas, music and visual arts of Western civilization, the Greeks to the present. Two lectures/two discussions per week.
- Courses 330-6 are designed to give a basic knowledge of past human experiences and an understanding of current events in some key areas of the non-Western world.*
- 330 WORLD CIVILIZATIONS: CHINA** 2 credits
Prerequisite: 64 credits.
- 331 WORLD CIVILIZATIONS: JAPAN** 2 credits
Prerequisite: 64 credits.
- 332 WORLD CIVILIZATIONS: SOUTHEAST ASIA** 2 credits
Prerequisite: 64 credits.
- 333 WORLD CIVILIZATIONS: INDIA** 2 credits
Prerequisite: 64 credits.
- 334 WORLD CIVILIZATIONS: NEAR EAST** 2 credits
Prerequisite: 64 credits.
- 335 WORLD CIVILIZATIONS: AFRICA** 2 credits
Prerequisite: 64 credits.
- 336 WORLD CIVILIZATIONS: LATIN AMERICA** 2 credits
Prerequisite: 64 credits.

Air Force ROTC

AEROSPACE STUDIES

1500:

- 113,4 FIRST YEAR AEROSPACE STUDIES** 1.5 credits each
(AS100), General Military Course. Missions and organizations of Air Force and current events discussed to show how the military contributes to national defense. Laboratory develops leadership skills.
- 253,4 SECOND YEAR AEROSPACE STUDIES** 1.5 credits each
(AS200), General Military Course. Emphasis on air power history. Films, lectures and class discussions. The politico-military environment is presented. Leadership laboratory.
- 303,4 THIRD YEAR AEROSPACE STUDIES** 3 credits each
(AS300), Professional Officer Course. Management concepts in the military. Leadership theory, functions and practices; professionalism; and responsibilities. Communicative skills are developed. Leadership laboratory.
- 453,4 FOURTH YEAR AEROSPACE STUDIES** 3 credits each
(AS400), Professional Officer Course. Focuses attention 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** 2 credits
A study of the mission of the Army, a geographical and cultural examination of the countries where U.S. soldiers are located, the principles of basic military leadership and management, land navigation, and opportunities in the Army. Leadership laboratory required. No military obligation incurred.
- 101 INTRODUCTION TO MILITARY SCIENCE II** 2 credits
A study of the principles and techniques of military leadership and human resource management and an analysis of U.S. and Soviet military power. Leadership laboratory required. No military obligation incurred.
- 200 BASIC MILITARY LEADERSHIP** 2 credits
Study of the principles of war and military strategy integrated into a military history program. Leadership laboratory required. No military obligation incurred.
- 201 SMALL UNIT OPERATIONS** 2 credits
Study and application of the Leadership Assessment Program (LAP). Introduction to tactics, first aid, and basic military skills. Leadership laboratory required. No military obligation incurred.
- 300 ADVANCED LEADERSHIP I** 3 credits
Prerequisites: 100, 101, 200, 201 and/or permission. Study in the application of military tactics and equipment. Practical work with communications equipment. Leadership laboratory required.

- 301 ADVANCED LEADERSHIP II** 3 credits
Prerequisite: 300 or permission. Study of leadership and tactics at the small-unit level. Practical work with land navigation. Leadership laboratory required.
- 400 MILITARY MANAGEMENT I** 3 credits
Prerequisites: 300, 301, or permission. Intensive investigation of the leadership process to include applicatory work emphasizing officer ethics, duties, and responsibilities. Leadership laboratory required.
- 401 MILITARY MANAGEMENT II** 3 credits
Prerequisites: 300, 301, or permission. Study of officer leadership and managerial responsibilities. Study of Army command organization and procedures, training management, personnel system, Uniform Code of Military Justice, and continued emphasis on counseling and human relations. Leadership laboratory required.
- 490 SPECIAL TOPICS IN MILITARY SCIENCE** 1-3 credits
(May be repeated for a maximum of three credits) Prerequisite: permission. Content varies with special topics. Texts to be selected according to topic and will use relevant library periodicals and journals. Existing library resources are adequate to support the course.

Interdisciplinary Programs

AFRO-AMERICAN STUDIES

1810:

- 301 THE CIVIL RIGHTS MOVEMENT IN AMERICA: 1945-1974** 3 credits
Social and political actions, events and environment which produces civil rights movement in America. Legal, political and organizational strategies; philosophical arguments; prominent civil rights activists.
- 401 GENERAL SEMINAR IN AFRO-AMERICAN STUDIES** 3 credits
Prerequisite: 3400:220 or permission. Exploration and intensive examination of variety of issues related to role and minority group relations which normally stand outside the compass of any one subject matter area.
- 420 SPECIAL TOPICS IN AFRO-AMERICAN STUDIES** 1-3 credits
(May be repeated for a maximum of three semester credits) Prerequisite: permission of instructor.

ENVIRONMENTAL STUDIES

1830:

- 201 MAN AND THE ENVIRONMENT** 2 credits
Study of our relationship with nature, our dependence upon the environment and 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.
- 490/590 WORKSHOP IN ENVIRONMENTAL STUDIES** 1-4 credits
Prerequisite: varies with topic. Credit in graduate program must have prior approval of adviser. Skills, attitudes and fundamental concepts dealing with timely environmental problems and issues covered. Instruction under direction of University faculty.

WOMEN'S STUDIES

1840:

- 300 INTRODUCTION TO WOMEN'S STUDIES** 3 credits
An interdisciplinary exploration of research methodology, empirical data, and theories on the history, culture, experience, accomplishments and status of women.
- 485/585 SPECIAL TOPICS IN WOMEN'S STUDIES** 1-3 credits
(May be repeated). Specialized topics and current issues in Women's Studies. Covers content and issues not currently addressed in other academic courses. Emphases will be on original source materials, critical analyses and the synthesis of empirical and theoretical aspects.
- 490/590 WORKSHOP** 1-3 credits
(May be repeated). Group experiential study of special issues in Women's Studies.

INSTITUTE FOR LIFE-SPAN DEVELOPMENT AND GERONTOLOGY

1850:

- 450 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY** 2 credits
(May be repeated for a total of two credits) Prerequisite: permission of instructor. Introduction to interdisciplinary study of gerontology including discussion of dimensions of aging, historical framework of aging in America, demographics, service systems and current issues.
- 485 SPECIAL TOPICS** 1-3 credits
Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology or gender. Covers content or issues not currently addressed in other academic courses.
- 486/686 RETIREMENT SPECIALIST** 2 credits
An investigation of issues related to the design and implementation of pre-retirement planning and examination of life-span planning education as employed by labor, business and education.
- 490 WORKSHOP** 1-3 credits
(May be repeated) Group studies of special topics in life-span development and gerontology. May not be used to meet certificate requirements. May be used for elective credit only.
- 495 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY** 1-3 credits
(May be repeated) Prerequisite: permission. Supervised experience in research or community agency work.

PEACE STUDIES

1860:

- 230 INTRODUCTION TO CONFLICT MANAGEMENT/RESOLUTION** 3 credits
Examination of the theoretical foundations of conflict and conflict management/resolution tactics to provide a sound and common intellectual framework for the systematic analysis and application of conflict methodologies.
- 300 TOPICS IN PEACE STUDIES** 1-3 credits
(May be repeated for a total of three credits) Interdisciplinary topics related to peace studies.
- 301 VALUE CONCEPTS ON PEACE AND WAR** 3 credits
Interdisciplinary study of attitudes, concepts and realities regarding war and peace issues.
- 350 INDEPENDENT STUDY** 1-3 credits
(May be repeated for a total of three credits) Detailed study on selected topics related to peace.
- 360 THE VIETNAM WAR** 3 credits
An examination and evaluation of political, military, diplomatic and economic impact of the Vietnam War.
- 378 INTRODUCTION TO HUMAN RIGHTS CONCEPTS** 3 credits
Interdisciplinary and cross-cultural survey of basic concepts of human rights as recognized by international law. Limitations and future issues are raised.
- 390 WORKSHOP IN PEACE STUDIES** 1-3 credits
(May be repeated for a total of four credits) Group studies in peace and war-related subjects and issues.
- 430 INTEGRATIVE APPROACHES TO CONFLICT MANAGEMENT/RESOLUTION** 3 credits
Prerequisite: 230. Comparison and workshop applications of strategies and concepts of conflict management/resolution.

HONORS PROGRAM

1870:

- 250-350-450 HONORS COLLOQUIUM: HUMANITIES** 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in humanities.

- 260-360-460 HONORS COLLOQUIUM: SOCIAL SCIENCES** 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in social sciences.

- 270-370-470 HONORS COLLOQUIUM: NATURAL SCIENCES** 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in natural sciences.

MEDICAL STUDIES

1880:

- 201 MEDICAL SEMINAR AND PRACTICUM I** 3 credits
Prerequisites: 3100:191 and permission. Provides field experiences in health-care delivery in geographic area served by Northeastern Ohio Universities College of Medicine and The University of Akron. Student directed in supervised roles of professional and paraprofessional in meeting health-care needs of community. Open to first-year student in Phase 1 of B.S./M.D. program, others by permission.
- 301 MEDICAL SEMINAR AND PRACTICUM II** 1-3 credits
(May be repeated to a maximum of three credits) Prerequisites: 201 and permission. Continuation of 201 offered at an advanced level of professional involvement. Open to second-year student in Phase 1 of B.S./M.D. program, others by permission.
- 310 SEMINAR ON HUMANITIES IN MEDICAL EDUCATION** 3 credits
Prerequisite: junior standing in B.S./M.D. program; others involved in health-care delivery programs by permission. Introduction to the humanities as they bear upon history and practice of medicine. Seminar draws upon lecturers from the University and community, and includes performances, field trips, films and tapes appropriate to topics discussed.
- 401/501 SPECIAL TOPICS: MEDICAL EDUCATION** 1-3 credits
(May be repeated with a change of topic with a maximum of three credits toward graduation.) Prerequisites: upper college student status and permission. Selected topics on medical education offered by professionals. Intended to provide advanced undergraduate education and continuing education for student and practitioners in the health sciences.

ENVIRONMENTAL HEALTH

1890:

- 300 INTRODUCTION TO ENVIRONMENTAL HEALTH** 3 credits
Prerequisite: permission. Introduction to environmental health, public health, industrial hygiene and related fields. The nature of the field, problems dealt with, the legal basis for action and career opportunities.
- 410 EPIDEMIOLOGY** 3 credits
Prerequisite: permission of instructor. Introduction to the study of the distribution and determinants of diseases and injuries in human populations; epidemiological statistics; research models.
- 450 SEMINAR IN ENVIRONMENTAL HEALTH** 1 credit
(May be repeated for a maximum of two credits) Prerequisite: permission of instructor. Research reports by faculty, graduate students and invited speakers.
- 480 SPECIAL TOPICS IN ENVIRONMENTAL HEALTH** 1-3 credits
(May be repeated for a maximum of six credits) Prerequisite: permission of instructor. Special courses offered once or occasionally in areas where no formal course exists.
- 497 INDIVIDUAL STUDIES OR INTERNSHIP IN ENVIRONMENTAL HEALTH** 1-3 credits
(May be repeated for a maximum of six credits) Prerequisite: permission of instructor. An internship with an appropriate employer or approved equivalent.

Community and Technical College

COOPERATIVE EDUCATION 2000:

- 201,301 COOPERATIVE EDUCATION** 0 credits
(May be repeated) Prerequisite: cooperative education students only. Work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.

DISTINGUISHED STUDENT PROGRAM 2015:

- 150 DISTINGUISHED STUDENT COLLOQUIUM** 2 credits
Prerequisite: admission to College Distinguished Student Program. Interdisciplinary colloquium on topics and issues in the humanities, social sciences and natural sciences.

ASSOCIATE STUDIES 2020:

- 121 ENGLISH** 4 credits
Employs various techniques including art, films, personal journals and critical reading, leading from pre-writing to development of structured expository essays.
- 222 TECHNICAL REPORT WRITING** 3 credits
Prerequisite: 121 or equivalent. Prepares student to write the types of reports most often required of engineers, scientists and technicians. Includes types of reports, memoranda, letters, techniques of research, documentation and oral presentations.
- 224 WRITING FOR ADVERTISING** 4 credits
Prerequisite: 121 or 1100.111. Study of language used in advertising; practice in writing advertisements for various media.
- 290 SPECIAL TOPICS: ASSOCIATE STUDIES** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission. Selected topics on subject areas of interest in associate studies.

ASSOCIATE STUDIES — MATHEMATICS 2030:

- 130 INTRODUCTION TO TECHNICAL MATHEMATICS** 3 credits
Elements of basic algebra; operations on signed numbers and polynomials; solutions and applications of first- and second-degree equations; English and metric systems; various types of graphs with applications; linear systems; trigonometry of right triangle. May not be used to meet General Studies mathematics requirement.
- 131 MATHEMATICAL ANALYSIS I** 4 credits
Prerequisites: two units of high school mathematics. Fundamental algebraic concepts, ratio, proportion and variation, graphing equations, right triangle trigonometry, linear systems, factoring and algebraic fractions, quadratic equations, trigonometric functions, oblique triangles.
- 132 MATHEMATICAL ANALYSIS II** 3 credits
Prerequisite: 131 or equivalent. Exponents and radicals, exponential equations, logarithms, vectors, graphs of trigonometric formulas and identities, complex numbers.
- 141 MATHEMATICS FOR DATA PROCESSING I** 4 credits
Prerequisites: two units of high school mathematics, including algebra. Numeration systems, fundamental algebraic concepts and operations, functions and graphs, systems of linear equations, determinants, matrices, factoring and algebraic fractions and quadratic equations.
- 142 MATHEMATICS FOR DATA PROCESSING II** 3 credits
Prerequisite: 141 or equivalent. Sets, logic, basic probability and statistics and mathematics of finance.
- 151 ELEMENTS OF MATHEMATICS I** 2 credits
Prerequisites: One year of high school algebra or equivalency test. Fundamental concepts and operations, functions and graphs, factoring and fractions, variation, quadratic equations.
- 152 ELEMENTS OF MATHEMATICS II** 2 credits
Prerequisite: 151 or two units of high school mathematics and placement test. Trigonometric functions, systems of linear equations, determinants, trigonometric functions of any angle, the straight line, radians, the δ -operator.
- 153 ELEMENTS OF MATHEMATICS III** 2 credits
Prerequisite: 152 or equivalent. Complex numbers, vectors and oblique triangles, exponents and radicals, binomial theorem, exponential and logarithmic functions.

- 154 MATH FOR ENGINEERING TECHNOLOGY I** 3 credits
Prerequisite: 153 or equivalent. Graphs of the trigonometric functions, additional topics in trigonometry, equations of higher degree, plane and analytic geometry.
- 233 MATHEMATICAL ANALYSIS III** 3 credits
Prerequisite: 132. Analytic geometry of the conics, introduction to differentiation, the derivative, application of the derivative, integration, differentiation and integration of transcendental functions.
- 255 MATH FOR ENGINEERING TECHNOLOGY II** 3 credits
Prerequisite: 154 or equivalent. The derivative, applications of the derivative, integration, derivatives of the trigonometric, inverse trigonometric, exponential, and logarithmic functions, integration by standard forms.
- 290 SPECIAL TOPICS: ASSOCIATE STUDIES — MATHEMATICS** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission. Selected topics on subject areas of interest in associate studies.
- 334 MATHEMATICS FOR TECHNICAL APPLICATIONS** 3 credits
Prerequisite: 233. Applications of integration, methods of integration, series (including Fourier), numerical methods of approximation, introduction to differential equations, second-order differential equations, Laplace transforms.
- 345 BASIC TECHNIQUES FOR DATA ANALYSIS** 2 credits
Prerequisite: 132 or 142. Data summarization including graphic presentation, numerical measures, introduction to probability, confidence intervals and hypothesis testing. Computer usage incorporated. For Community and Technical College students only.
- 356 MATH FOR ENGINEERING TECHNOLOGY III** 3 credits
Prerequisite: 255 or equivalent. Applications and methods of integration, first and second order differential equations, series expansion, Laplace transforms, partial derivatives, double integrals.

ASSOCIATE STUDIES — SOCIAL SCIENCES 2040:

- 240 HUMAN RELATIONS** 3 credits
Examination of principles and methods which aid in understanding the individual's response to society and the relationship between society and individuals.
- 241 TECHNOLOGY AND HUMAN VALUES** 2 credits
Examination of impact of scientific and technical change upon people, their values and institutional arrangements. Topics include biomedical technology, automation, economic growth, natural environment and technology and quality of life.
- 242 AMERICAN URBAN SOCIETY** 3 credits
Multidisciplinary treatment of urban processes and problems. Concerns historical, political, social, economic and other environmental forces which impact the individual in an urban setting.
- 244 DEATH AND DYING** 2 credits
Understanding of death and dying applied personally and professionally to needs of adults, children and families with respect to attitudes, feelings and communications skills.
- 247 SURVEY OF BASIC ECONOMICS** 3 credits
Introduction to economic analysis and issues designed for the student taking only one course in economics. Coverage includes economic systems, exchange, money and banking, national income, employment, fiscal policy and current domestic economic problems.
- 251 HUMAN BEHAVIOR AT WORK** 3 credits
Examination of relationship between the worker and the work organization. Emphasis on involvement, sense of job satisfaction, supervision and goals of the organization.
- 254 THE BLACK AMERICAN** 2 credits
Examination of the black American including origins, historical achievements and present striving to achieve first-class citizenship in American society. Emphasis on analysis of forces in American society that create racial separation.
- 290 SPECIAL TOPICS: ASSOCIATE STUDIES — SOCIAL SCIENCES** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission. Selected topics on subject areas of interest in the social sciences.

INDIVIDUALIZED STUDY 2100:

- 190 INDIVIDUALIZED STUDY EVALUATION** 1 credit
Prerequisite: admission to program. Analysis of interests, talents, goals expressed in three assigned papers; first shortly after enrollment in program, second after completing 12 to 16 credits, third after completing 52 credits. Topics include student's background of career and personal activities, effect of current course work, opportunities resulting from educational experiences and application of ideas in planning areas of study. Student is required to enroll in this course in first semester.

EDUCATIONAL TECHNOLOGY 2200:

- 100 INTRODUCTION TO LIBRARY TECHNOLOGY** 3 credits
Introduces student to library technology program and career opportunities available as library technologists. Includes discussions, field observations, guest speakers, lecturers, readings and extensive practical hands-on 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. Problems, practice in typing catalog cards and filing.

- 202 ORGANIZING AND OPERATING LIBRARY/MEDIA CENTERS** 3 credits
Includes functional aspects of facility, ordering and processing materials, circulation procedures and other control systems. Operational functions include program development and implementation, services of library/media centers and public relations.
- 203 MATERIALS SELECTION** 2 credits
Introduction to tools used in selecting print and nonprint materials for libraries/media centers. Problems of censorship, intellectual freedom and academic freedom discussed as they relate to evaluation selection process.
- 204 REFERENCE PROCEDURES** 3 credits
Introduction to study and use of basic information tools including almanacs, encyclopedias, dictionaries, bibliographies, yearbooks and specialized reference tools. Actual reference practices and procedures used.
- 205 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY** 3 credits
Prerequisites: 201,204; or permission. Practical introduction to information retrieval systems and their application. Emphasis on Ohio College Library Center network and its impact on library technical and public services. Hands-on experience with OCLC and other on-line terminal operations.
- 245 INFANT/TODDLER DAY-CARE PROGRAMS** 3 credits
Survey of infant/toddler development. Principles of infant/toddler care giving. Design of environment and curriculum based on child's needs. Includes observation of children. (20 field hours required)
- 250 OBSERVING AND RECORDING CHILDREN'S BEHAVIOR** 3 credits
Prerequisite: 7400.265 or permission. Develops observing and recording skills using different types of records and assesses children's development and behavior. (23 field hours required)
- 290 SPECIAL TOPICS: EDUCATIONAL TECHNOLOGY** 1-3 credits
Prerequisite: permission. Selected topics on subject areas of interest in educational technology.
- 297 INDEPENDENT STUDY** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Selected topics and special areas of study under supervision and evaluation of selected faculty member with whom specific arrangements have been made.

HANDICAPPED SERVICES

2210:

- 100 INTRODUCTION TO INTERPRETING FOR THE DEAF** 4 credits
Prerequisites: 104 and 7700.271. Introduction to basic theories, principles and practice of interpreting for the deaf in general and in specialized settings. A survey course intended to familiarize the student with ethics and guidelines appropriate in situational settings: Will also emphasize interpreting/translating processes and skill building.
- 104 SIGN LANGUAGE, GESTURE AND MIME** 3 credits
Non-language aspects of communication which form base for communication in American sign language and international sign language. Emphasis on eye training, use of gestures, pantomime, body language.
- 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** 2 credits
(Must be repeated for a total of eight credits)
- 200 REVERSE INTERPRETING** 3 credits
Prerequisites: 104, 7700.100. Designed to enhance skills in comprehending the various sign language systems; a continuum from gestural signs to Amestran to 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 its proper English equivalent will be covered.
- 230 SPECIALIZED INTERPRETING II** 3 credits
Prerequisite: 7700.150. Introduction to interpreting in the vocational/technical, legal, educational and religious settings with an overview and development of specific translations in these areas.
- 290 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 the 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 the protection of 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 of officer's relationship thereto. Court procedures from arrest to incarceration.
- 106 JUVENILE JUSTICE PROCESS** 3 credits
Prerequisite: 100. Examination of juvenile justice system, functions of its various components; adolescent subculture, legislation, causative factors, prevention and treatment methodologies and programs.
- 110 SOCIAL VALUES AND THE CRIMINAL JUSTICE PROCESS** 3 credits
Prerequisite: 100. In-depth exploration stressing philosophy that social values and ethics are

basic principles of a sound criminal justice process. Roles of administration of justice practitioners in relation to public they serve.

- 200 CRIMINAL JUSTICE THEORY AND PRACTICE** 3 credits
Prerequisite: 100. Examination of criminal justice administrative problems in personnel selection, training, advancement and personnel utilization. Consolidation and cooperation between agencies. Advanced concepts for change within criminal justice system.
- 210 POLICE PATROL/TRAFFIC OPERATIONS** 3 credits
Prerequisite: 100. Designed to meet peace officer certification requirements. Emphases placed on basic patrol procedures, traffic enforcement, traffic engineering, and traffic safety education.
- 240 DYNAMICS OF VICE CRIME AND SUBSTANCE ABUSE** 3 credits
Prerequisites: 100 and permission. Introduction to problems of vice crime and narcotics and drug abuse in our society. Provides knowledge concerning issues involved in consensual 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.
- 291 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.
- 292 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.
- 293 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. Thirty credits and permission; corequisite: 295. Analysis by student and instructor of internship experience. A sharing of knowledge gained by student during internships.
- 295 CRIMINAL JUSTICE INTERNSHIP** 3 credits
Prerequisites: 100. Thirty credits and permission. Supervised work experience in criminal justice agency for purpose of increasing student understanding of criminal justice process.

FIRE PROTECTION TECHNOLOGY

2230:

- 100 INTRODUCTION TO FIRE PROTECTION** 3 credits
History and philosophy of fire protection; introduction to agencies involved; current legislative developments; discussion of current related problems, expanding future of fire protection and career orientation.
- 102 FIRE SAFETY IN BUILDING DESIGN AND CONSTRUCTION** 3 credits
Exploration of building construction and design with emphasis on fire protection concerns; review of related statutory and suggested guidelines -- local, state and national scope.
- 104 FIRE INVESTIGATION METHODS** 3 credits
History of fire investigation; gathering of evidence and development of technical reports; fundamentals of arson investigation; processing of criminal evidence and procedures related to local and state statutes.
- 153 PRINCIPLES OF FIRE PROTECTION AND LIFE SAFETY** 3 credits
Recognition of specialized fire hazards. Maintenance and utilization of portable and automatic fire extinguishing devices. Fire prevention methods, code compliance. Organizing fire safety training programs.
- 202 FIRE SUPPRESSION METHODS** 3 credits
Efficient and effective utilization of human resources, equipment and apparatus. Emphasis on preplanning, fireground organization problem solving related to fireground decision making and attack tactics and strategy.
- 204 FIRE HAZARDS RECOGNITION** 3 credits
Inspection techniques and procedures; setting up a fire prevention bureau. Recognition and correction of fire hazards. Public relations and code enforcement.
- 205 FIRE DETECTION AND SUPPRESSION SYSTEMS I** 3 credits
Design, installation, maintenance and utilization of portable fire extinguishing appliances and preengineered 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, fire fighting 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 safety planning, fire brigade organizations.
- 290 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
Prerequisites: 30 credits in program and permission of program coordinator. Supervised work experience in fire protection to increase student understanding of fire technology; analysis by student and instructor of internship experience; sharing of knowledge gained during internship.

COMMERCIAL ART**2240:**

- 110 MULTI-IMAGE PRODUCTION** 3 credits
Prerequisites: 7100:275 or 7600:280. Students explore the equipment, techniques, and applications of multi-image presentations while producing a synchronized multi-projector A-V show.
- 122 INTRODUCTION TO COMMERCIAL PHOTOGRAPHY** 3 credits
Prerequisite: 7100:275. While working through a series of advertising-related photographic projects, students are introduced to the numerous commercial applications of studio and location photography.
- 124 DESIGN IN COMMERCIAL ART** 3 credits
Projects in visual design fundamentals. Analysis of design/research process applied to advertising layout and composition. Design constructions in pattern and self-contained forms.
- 130 MARKER RENDERING** 3 credits
Prerequisites: 124, 7100:131, 7100:132. Teaches drawing and rendering skills using markers and common visual languages necessary for communication with design professionals. Projects on various papers for comprehensive studio knowledge.
- 140 TYPOGRAPHY AND LETTERING** 3 credits
Prerequisite: 124. Letter symbols studied in terms of communication and aesthetic design. History of letter forms, type indication, copyfitting and type specification for commercial application. Analysis of contemporary typefaces.
- 210 PORTRAIT/FASHION PHOTOGRAPHY** 3 credits
Prerequisite: 122. The fundamentals of commercial portraiture and fashion photography are explored through the study of styling, posing, lighting, and working with people.
- 224 ILLUSTRATION/ADVERTISING PHOTOGRAPHY** 3 credits
Prerequisite: 122. Professionally oriented photographic skills are further developed as students confront assignments closely related to current trends in illustration and advertising photography.
- 242 ADVERTISING LAYOUT DESIGN** 3 credits
Prerequisite: 140. Problems in commercial graphic design, analysis, research, visual experimentation and finished art. Emphasis on visual problem solving in advertising and communications.
- 245 DESIGNING FOR PRODUCTION** 3 credits
Prerequisites: 140, 7100:132. Analysis of design process as applied to commercial printing processes. Design projects taken to camera-ready art. Color separation systems, key-line, mechanicals and preparation of finished art procedures.
- 247 PACKAGING DESIGN** 3 credits
Prerequisites: 242 and 245. Visual design and development of protective devices for packaging, shipment and display of consumer products. Analysis of product marketing potential and point-of-purchase advertising.
- 248 PUBLICATION DESIGN** 3 credits
Prerequisites: 242, 245 and 7100:275. Study of publications and design of promotional brochures, annual reports and other multi-paged communication devices. Emphasis on total design systems from concept to camera-ready art. Portfolio development.
- 250 ADVANCED COMMERCIAL PHOTOGRAPHY** 3 credits
Prerequisites: 210 and 224. Students explore advanced techniques within a commercial photography specialty of their choice while producing photographs for a commercially oriented portfolio.
- 252 PROFESSIONAL PHOTOGRAPHIC PRACTICES** 3 credits
Prerequisites: 210 and 224. Students confront the business and marketing practices unique to the commercial photography industry while producing a photographically oriented self-promotional campaign.
- 290 SPECIAL TOPICS: COMMERCIAL ART** 1-3 credits
Prerequisite: permission of instructor. Selected topics or subject areas of interest in commercial art.
- 295 PRACTICUM IN COMMERCIAL ART** 1-3 credits
(Repeatable for a maximum of nine hours.) Prerequisite: 7100:231, 232, 233. Controlled by portfolio competition or permission of the instructor. Provides experience through an internal design and production studio. Involves responsibilities for the design and production of communication materials. Includes organizational, accounting and managerial responsibilities.

PUBLIC SERVICE TECHNOLOGY**2250:**

- 260 ADMINISTRATION AND SUPERVISION IN THE PUBLIC SERVICE** 3 credits
Prerequisite: 2220:100 or 2230:100. Examination and analysis of basic concepts of administration, supervision, policy formulation as they pertain to public service agencies. Practical application of supervisory responsibilities, functions of police/fire departments.

COMMUNITY SERVICES TECHNOLOGY**2260:**

- 100 INTRODUCTION TO COMMUNITY SERVICES** 3 credits
Introductory course to familiarize student with role of community services technician in service delivery. Use, history and rationale for paraprofessionals, programs, volunteer experiences, self-awareness and interaction in community services.
- 150 INTRODUCTION TO GERONTOLOGICAL SERVICES** 3 credits
Basic orientation to gerontology and role of community service technician in service delivery to aged. Topics include social, biological, economical and psychological aspects of aging; national and state legislation; services and service provider.
- 230 COMMUNITY-BASED RESIDENTIAL SERVICES** 3 credits
Orientation to community-based residential services and role of community services techni-

cian in delivery of services to mentally disabled. Includes historical, social and legal forces in community-based services and practical aspects of operation of a residential facility.

- 232 ADVOCACY FOR THE DISABLED** 3 credits
Working with disabled individuals. Includes legal rights, advocacy roles, civil commitment, guardianship, housing, employment and health-care needs.
- 240 CHEMICAL DEPENDENCY** 3 credits
Basic introduction to drug use and abuse. Includes pharmacology, basic helping and crisis intervention skills, motivations, theories of treatment and exploration of some typical drug crisis situations.
- 241 CHEMICAL DEPENDENCY II** 3 credits
Prerequisite: 240 or permission. Continued in-depth exploration of drug usage patterns, causes of chemical abuse and treatment modalities. Skills to develop alternatives to drug abuse are studied and rehearsed.
- 251 COMMUNITY SERVICES FOR SENIOR CITIZENS** 3 credits
Prerequisite: 150. A study of national and community resources for social service delivery to senior citizens. Specific agencies, program needs and senior citizens and resultant services.
- 252 RESIDENT ACTIVITY COORDINATION** 3 credits
Designed to prepare student to qualify as resident activity coordinator in Ohio nursing homes. General topics include: assessing and understanding the patient, administration of activities program, techniques of program planning.
- 260 ALCOHOL USE AND ABUSE** 3 credits
Survey of use and abuse of alcohol in our society with particular emphasis on replacing common stereotypes, myths and attitudes with improved understanding.
- 261 ALCOHOLISM TREATMENT** 3 credits
Prerequisite: 260. Survey of theory and practices in treatment of alcohol problems. Special emphasis on applicability and effectiveness of various resources and approaches.
- 262 BASIC HELPING SKILLS IN ALCOHOL PROBLEMS** 4 credits
Prerequisite: 278. Introduces the student to basic concepts of helping skills; provides opportunity to help; develops ability to give and receive feedback about relevancy and effectiveness of behavior; develops responsibility for their own learning as related to working with alcohol problems.
- 263 GROUP PRINCIPLES IN ALCOHOLISM** 4 credits
Prerequisite: 260 or permission. Introduces student to group dynamics; provides opportunity to examine their role as group members; and explores unique factors in alcoholism that influence group treatment. Practical group dynamics sessions.
- 264 CHILDREN OF ALCOHOLICS** 3 credits
A didactic and experiential in-depth study of the characteristics, behaviors, problems and programs of recovery of children and adults who have lived in an alcoholic home.
- 265 WOMEN AND CHEMICAL DEPENDENCY** 3 credits
Exploration of social, psychological, physical and family consequences as contributing factors in the misuse of alcohol and drugs by women.
- 278 TECHNIQUES OF COMMUNITY WORK** 4 credits
For those intending to work at community organization and outreach assignments in inner city and other poverty areas in United States and for others desiring an understanding of these newly developing technical community service roles.
- 279 TECHNICAL EXPERIENCE IN COMMUNITY AND SOCIAL SERVICES** 5 credits
Prerequisite: 278 or permission. Individual placement in selected community and social service agencies for educationally supervised experience in community and social services technician position. Does not substitute for 7750:421 or 495.
- 280 FUNDAMENTALS OF VOLUNTEER MANAGEMENT** 3 credits
Prerequisite: permission. For person wishing to increase professional skills in volunteer administration. Includes setting goals, developing work plans, evaluating volunteer performance, recruiting volunteers, writing job descriptions, handling human relations problems, developing office procedures, keeping records and evaluating volunteer program.
- 281 RECRUITMENT AND INTERVIEWING OF VOLUNTEERS** 3 credits
Prerequisite: 280 or permission. To provide knowledge for recruitment and interviewing of persons seeking volunteer positions. Will cover writing of volunteer job descriptions, methods of recruitment, techniques of interviewing; concentration on interviewing skills.
- 285 SOCIAL SERVICES PRACTICUM** 1-4 credits
- 286 COUNSELOR ASSISTANT INTERNSHIP** 4 credits
Prerequisites: 279 and permission of instructor. Integrates counselor assistant experience with fundamental concepts and skills from academic studies. Students required to complete 200 hours of supervised field experience.
- 288 TECHNIQUES OF COMMUNITY WORK II** 4 credits
- 290 SPECIAL TOPICS: COMMUNITY SERVICES TECHNOLOGY** 1-3 credits
Prerequisite: permission. Selected topics or subject areas of interest in community services technology.
- 294 SOCIAL SERVICES PRACTICES SEMINAR** 1-2 credits
- 297 INDEPENDENT STUDY** 1-3 credits
Prerequisite: permission. Selected topics and special areas of study under the supervision and evaluation of a selected faculty member with whom specific arrangements have been made.

LABOR STUDIES**2270:**

- 101 INTRODUCTION TO LABOR STUDIES** 3 credits
Overview of Trade Unionism in America from 18th Century to present with emphasis on factors affecting growth of unions. Rise of industrial unionism as alternative to craft unions. Trade union movements in other countries examined for their influence on American unions.
- 111 COLLECTIVE BARGAINING I** 3 credits
Review of collective bargaining dealing with wages, fringes and working conditions. Examination of contract content. Development of bargaining proposals. Skills required in negotiations and union/management responsibilities to community in collective bargaining. Strikes and impasse resolution.
- 122 LEGAL FRAMEWORK FOR COLLECTIVE BARGAINING** 3 credits
Legal framework within which collective bargaining process takes place. Rights of employees, union, employer under federal and state laws discussed in context of organizing, election and bargaining.

- 123 LABOR LEGISLATION AND ECONOMIC SECURITY** 3 credits
Prerequisite: 122 or permission. Federal and state legislation governing employment conditions and standards. Includes minimum wage, health and safety, unemployment compensation, TDI, civil rights and anti-discrimination, social security, labor management reporting and disclosure.
- 212 COLLECTIVE BARGAINING II** 3 credits
Prerequisite: 111. Mechanics and skills of formal grievance procedures in industrial, craft and public setting. Investigation, record keeping and presentation of grievance, as well as study of arbitration process and preparation and presentation of arbitration cases.
- 221 OCCUPATIONAL HEALTH AND SAFETY STANDARDS** 3 credits
Prerequisite: 122. Examination of William/Steiger Occupational Safety and Health Act and rights and responsibilities conferred on unions by this act. Includes not only workings of the law but also hazards recognition study.
- 224 LABOR LAW IN THE PUBLIC SECTOR** 3 credits
Prerequisite: 271. Provides basic understanding of legal requirements and restraints placed upon parties when bargaining within federal, state and local sectors as well as postal and educational areas. Legal framework of collective negotiations or contract administration.
- 231 FAIR PRACTICES AND EQUAL OPPORTUNITY** 2 credits
Prerequisite: 101. Rights and responsibilities of unions and union members as related to Title VII of the Civil Rights Act, the Voting Rights Act and development of EEOC.
- 241 UNION LEADERSHIP** 2 credits
Prerequisite: 101. Specific skills related to administration of local unions structure and duties and responsibility of officers.
- 251 PROBLEMS IN LABOR STUDIES** 3 credits
Prerequisite: final semester or permission. Each student required to combine field research and classroom time to identify, explore and propose an approach to a current problem in labor/management relations.
- 261 WAGE ADMINISTRATION** 3 credits
Prerequisites: 101, 111 or 122. Wage and salary determination: structure of wages, salaries and fringe benefits and use of merit and incentive plans. Methods of compensation analyzed. Impact of federal and state laws governing the payment of wages.
- 271 PUBLIC SECTOR LABOR RELATIONS** 3 credits
Prerequisite: 101. Analyzes current problems, developments and issues in public sector collective bargaining from growth of public employee unions to the nature of bargaining in the public sector. Includes bargaining issues, right-to-strike and use of arbitration in public sector.
- 290 SPECIAL TOPICS: LABOR STUDIES** 1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or workshops in labor studies.

HOSPITALITY MANAGEMENT

2280:

- 120 SAFETY AND SANITATION** 3 credits
Introduction to food service sanitation, safety practices pertinent to hospitality manager. Emphasis on sanitation laws, rules, food microbiology, safe food handling, 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 121. Advanced food preparation techniques presented in laboratory situations.
- 123 MEAT TECHNOLOGY** 2 credits
Prerequisite: 120. 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 guest 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** 3 credits
Intensive examination of wine as related to hospitality industry. Emphasis on business practices. History and development of viticulture, enology.
- 232 DINING ROOM SERVICE AND TRAINING*** 2 credits
In-depth study of the styles of dining service, development of job descriptions, importance of courtesy, customer relations.
- 233 RESTAURANT OPERATIONS AND MANAGEMENT** 4 credits
Prerequisites: 121, 122, and 232 for restaurant management option. Additional prerequisites: 261 and 262 for culinary arts majors. 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.
- 237 INTERNSHIP** 1 credit
Prerequisite: permission. On/off campus observation/work experience integrated with academic instruction. Concepts applied to practical situations. May be repeated for a total of two credits.
- 238 COST CONTROL PROCEDURES** 3 credits
Prerequisite: 2420:170 and 2280:135. Methods of financial control of an operation are presented and discussed with case study exercises. Hands-on experience with NCR 2160 Computer System.
- 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
Prerequisite: 120. Available food service equipment, its selection, use and care. Field trips taken to wholesale outlets and food service establishments to see food service equipment demonstrated and in operation.
- 254 HOTEL/MOTEL HOUSING MANAGEMENT** 3 credits
Analysis of housekeeping procedures; organization of successful housekeeping department.
- 255 HOTEL/MOTEL SALES PROMOTION** 3 credits
Sales promotion techniques; functioning of sales department; need for sales planning. Sales tools, selling techniques for food and beverage, group business. Advertising, community relations and internal personal and 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 bakeshop; 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 select foods by visiting chefs. Recipe file developed.
- 265 BEVERAGE OPERATIONS** 3 credits
Purchasing, inventory control, and accounting of alcoholic beverage service used in the hospitality industry. Review of local, state, and federal beverage regulations.
- 290 SPECIAL TOPICS: HOSPITALITY MANAGEMENT** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in food service management.

LEGAL ASSISTING

2290:

- 101 INTRODUCTION TO LEGAL ASSISTING** 3 credits
Covers the basics of legal assisting emphasizing the fundamental concepts of the legal system. Includes overview of legal assistant career and ethical considerations relative thereto.
- 104 BASIC LEGAL RESEARCH AND WRITING** 3 credits
Prerequisite: 101. Will provide the student with basic research abilities necessary in law offices. Includes the use of law library tools (reporter systems, legal encyclopedias, codes, and computer).
- 106 BUSINESS ASSOCIATIONS** 3 credits
Prerequisite: 101. Instructs students in different types of business entities, from sole proprietorships to corporations. Preparation of forms and necessary governmental filings will be stressed.
- 108 REAL ESTATE TRANSACTIONS** 3 credits
Prerequisite: 101. Acquaints students with basic real property law, including different types of deeds, ownerships, easements, and mortgages. Problems arising from sales agreements will be covered.
- 110 TORT LAW** 3 credits
Prerequisite: 101. Covers the traditional civil wrongs, from the plaintiff's and defendant's standpoints. Actual cases will be briefed and discussed. Stresses importance of preparation prior to trial.
- 112 FAMILY LAW** 3 credits
Prerequisite: 101. Covers divorce and dissolution of marriage including child support, custody, alimony, etc. Client interviewing is stressed. Juvenile court procedures are covered, including neglect and abuse.
- 118 PROBATE ADMINISTRATION** 4 credits
Prerequisite: 101. Covers law necessary to draft and interpret wills, trusts. Includes administration of a typical estate within Probate Court. Touches on guardianships, commitment of mentally ill.
- 204 ADVANCED LEGAL RESEARCH** 3 credits
Prerequisite: 101; 104. Continuation of 104. Will especially stress importance of clear, concise legal writing. Students will write briefs, motions, and complaints as part of their endeavor.
- 214 CIVIL PROCEDURE** 3 credits
Prerequisite: 101. Covers aspects of legal assisting in different types of civil litigation. Includes Ohio Rules of Civil Procedure, preparation of complaints, answers, motions, basic trial preparation.
- 216 DEBTOR-CREDITOR RELATIONS** 3 credits
Prerequisite: 101. Course covers bankruptcy, collection methods, consumer law, and practice. Course stresses law and procedures and the numerous forms that are part of this practice.
- 218 ADVANCED PROBATE ADMINISTRATION** 3 credits
Prerequisite: 101; 118. This is a continuation of 110 but will cover the more complicated trusts and estates and will stress both state and federal tax filings.
- 220 LEGAL ASSISTING INTERNSHIP** 4 credits
Prerequisite: 101. Student must have completed all first-year courses. Gives students experience in law or law-related office. Students work 14 hours per week in their placement and meet regularly with the Internship Coordinator.

BUSINESS MANAGEMENT TECHNOLOGY

2420:

- 101 ELEMENTS OF DISTRIBUTION** 3 credits
Study of basic principles and methods in distribution. Presentation of marketing process as it relates to consumer and industrial products. Emphasis on pricing, product, promotion, as well as distribution.

*Students enrolling in Food Preparation II or Dining Room Service and Training need to schedule classes to attend a common lecture time for each class and an additional lab time on one of the remaining four days as indicated in the bulletin schedule.

- 103 THE ROLE OF SUPERVISION IN MANAGEMENT** 3 credits
Presentation of basic management techniques; motivation, planning, organizing, leading and controlling. Elements of group behavior, communication and employee compensation.
- 104 INTRODUCTION TO BUSINESS** 3 credits
Survey course of business in its entirety including production, distribution, finance, control and personnel functions. Emphasis on descriptive materials, technical vocabulary and career opportunities and responsibilities in various business fields.
- 105 INTRODUCTION TO CREDIT UNIONS** 2 credits
Credit union as financial institution. History, structure, duties of board of directors, advisory committees, financial counseling, lending and analysis, evaluation of financial statements.
- 111 PUBLIC RELATIONS** 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 load policies, financial planning and counseling, delinquency control and collections, credit union law.
- 117 SMALL BUSINESS DEVELOPMENT** 3 credits
Prerequisite: 104. Fundamentals of small business operations, emphasis on small business marketing.
- 118 SMALL BUSINESS MANAGEMENT AND OPERATIONS** 3 credits
Prerequisite: 117. Designed to provide greater insight into the management and financial aspects of small business operations. Emphasis on small business management.
- 121 OFFICE MANAGEMENT** 3 credits
Survey of office administration with emphasis on management and interaction of human resources and new office technologies including information collection, processing, storage and retrieval.
- 123 FEDERAL REGULATION OF BANKING** 2 credits
Prerequisite: 113. Study of agencies regulating banks, bank charters, bank reports and examinations, federal limitations on banking operations and regulation of bank expansion. Supervision of employees to conform with regulation.
- 125 PERSONAL FINANCIAL COUNSELING** 3 credits
Family resource management; consumer decision making including consumer credit and family budget decisions, retirement planning, types of insurance, annuities and savings, consumer education, types and techniques of counseling.
- 170 BUSINESS MATHEMATICS** 3 credits
Review of fundamentals of mathematics applicable to business, trade prices, retail pricing, interest and discounts, compound interest and annuities, consumer credit, payroll, income taxes, depreciation methods, financial statements and elementary statistics.
- 202 PERSONNEL PRACTICES** 3 credits
Provides information necessary to develop policies and programs that attract, retain and motivate employees. Includes staffing, human resources development, compensation plans, labor and management relations, appraisal systems and career planning.
- 211 BASIC ACCOUNTING I** 3 credits
Accounting for sole proprietorships and partnerships. Service and merchandising concerns. Journals, ledgers, work sheets and financial statements. Includes handling of cash, accounts receivable, notes, inventories, plant and equipment and payroll.
- 212 BASIC ACCOUNTING II** 3 credits
Prerequisite: 211. Study of accounting principles as applied to corporate form of business, and of manufacturing accounting for job order and process costing, budgeting and standard costs.
- 213 BASIC ACCOUNTING III** 3 credits
Prerequisite: 212. Study of information needs of management. Emphasis on the interpretation and use of accounting data by management in planning and controlling business activities.
- 214 ESSENTIALS OF INTERMEDIATE ACCOUNTING** 3 credits
Prerequisite: 212. Study of development of financial accounting theory and its application to problems of financial statement generation, account valuation, analysis of working capital and determination of net income.
- 216 SURVEY OF COST ACCOUNTING** 3 credits
Prerequisite: 213. Provides student with conceptual understanding of how accounting information is developed and used for product costing, decision making and managerial planning and control.
- 217 SURVEY OF TAXATION** 4 credits
Prerequisite: 212. Survey course of basic tax concepts, preparation of returns, supporting schedules and forms for individuals and businesses. Federal, state and local taxes are discussed. The major emphasis of this course is on business taxes.
- 221 ADMINISTRATIVE OFFICE SUPERVISION** 2 credits
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, their management and investigation, along with collection policies, practices, systems.
- 227 ENTREPRENEURSHIP PROJECTS** 4 credits
Prerequisite: 118. An overview of small business management. A project course during which students create a hypothetical business.
- 233 INSTALLMENT CREDIT** 2 credits
Prerequisite: 113. Pragmatic course emphasizing evaluation, maintenance of consumer, commercial credit. Covers evaluation, legal aspects, collection, direct and indirect installment lending, leasing and other special situations, credit department management.
- 243 SURVEY IN FINANCE** 3 credits
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 operation and management. Bank case studies utilized to focus on objectives, planning, structure, control and interrelationship 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 40C, 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.

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.
- 205 INTRODUCTION TO REAL ESTATE MANAGEMENT** 3 credits
Prerequisites: 105, 185. Survey course focusing on application of management process to the specialized field and product of real estate. Discussion and research topics include property analysis, marketing and administration.
- 215 ESSENTIALS OF REAL ESTATE ECONOMICS** 2 credits
Prerequisites: 105, 185. Student learns and applies techniques of analysis found in economics to local real estate market and to parcels of real estate found within the market.
- 225 INDUSTRIAL REAL ESTATE** 2 credits
Prerequisites: 105, 185. Elements course focusing on functions of industrial real estate broker. Topics of discussion and research include site selection, development, marketing and financing transfer of industrial property.
- 235 COMMERCIAL REAL ESTATE** 2 credits
Prerequisites: 105, 185. Elements course focusing on functions of commercial real estate broker. Topics of discussion and research include site selection, development, marketing and financing transfer of commercial paper.
- 245 REAL ESTATE FINANCE** 2 credits
Prerequisites: 105, 185. Study of contents of contemporary real estate finance. Units on reading and discussion include mortgage instruments, financial institutions, mortgage market, governmental influence on finance and risk analysis and mortgage lending.
- 255 VALUATION OF RESIDENTIAL PROPERTY** 2 credits
Prerequisites: 105, 185. Methods used to estimate value in residential property including cost of reproduction, market data and income approach. Student prepares an appraisal on a residential property.
- 265 REAL ESTATE BROKERAGE** 2 credits
Prerequisites: 105, 185. Application of management functions of planning, organizing, directing, controlling and staffing 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 mathematics, mortgage mathematics and closing statements.
- 290 SPECIAL TOPICS: REAL ESTATE** 1-3 credits
Prerequisite: permission. Selected topics or subject areas of interest in real estate.

COMPUTER PROGRAMMING 2440:

- 120 COMPUTER AND SOFTWARE FUNDAMENTALS** 2 credits
General overview of data processing techniques providing fundamentals necessary for subsequent computer-oriented courses.
- 121 INTRODUCTION TO PROGRAMMING LOGIC** 2 credits
Prerequisite: 120. Introduction to fundamental concepts of problem solving and developing programming logic, with emphasis on effective design of business application programs.
- 125 LOTUS 1-2-3** 2 credits
Emphasizes mastery of spreadsheet applications using LOTUS 1-2-3.
- 130 BASIC PROGRAMMING FOR BUSINESS** 3 credits
Introduces the student to the fundamental concepts of computer programming using the BASIC language. Emphasis is on developing computer programs on a microcomputer system.
- 131 INTRODUCTION TO PROGRAMMING** 2 credits
Corequisite: 120. Teaches fundamental programming concepts in a high-level language such as Pascal. Also provides experience with on-line job submission for execution by mainframe computers.

- 132 ASSEMBLER PROGRAMMING** 3 credits
Prerequisite: 131. Emphasis on Basic Assembler Language and practical application programming using BAL.
- 133 STRUCTURED COBOL PROGRAMMING** 2 credits
Prerequisites: 121 and 131. Introduction to COBOL with specific orientation to structured techniques.
- 151 PC DOS FUNDAMENTALS** 1 credit
Includes instruction in the standard DOS commands as well as the use of batch files, autoexec files, subdirectories, and paths.
- 220 SOFTWARE APPLICATIONS FOR BUSINESS** 2 credits
Prerequisites: 120 and 125. Emphasizes application software packages. The packages covered are selected according to current business needs.
- 234 ADVANCED COBOL PROGRAMMING** 3 credits
Prerequisite: 133. Emphasizes advanced COBOL applications, including file organization concepts.
- 235 CURRENT PROGRAMMING TOPICS** 2 credits
Prerequisite: 133. Emphasizes new developments related to programming, including topics such as C, UNIX, and expert systems.
- 239 RPG II PROGRAMMING** 2 credits
Prerequisite: 121 or permission of coordinator. Report Program Generator (RPGII) programming. Includes coding and debugging business applications.
- 241 SYSTEMS ANALYSIS AND DESIGN** 3 credits
Prerequisite: 133. Covers all phases of business systems analysis, design, development and implementation. Such principles as system flowcharting and file and document design emphasized.
- 243 INFORMATION CENTER PRACTICUM** 3 credits
Prerequisite: 234 or permission. Students explore the information center concept in a business environment and acquire real world experience using and assisting others to use popular business-oriented software.
- 247 MICROCOMPUTER HARDWARE AND SOFTWARE SELECTION** 3 credits
Prerequisite: 125; 151; 245. Familiarizes students with the advantages and disadvantages of the microcomputer hardware and software available. Product comparisons, selection criteria, and evaluation are explored.
- 250 BASIC PROGRAMMING APPLICATIONS IN BUSINESS** 5 credits
Prerequisite: 130. Offers intensive training in business applications programming on microcomputer systems including data analysis; text processing; error trapping; sorting; development of menu driven programs; ISAM file creation and upkeep.
- 251 COMPUTER APPLICATIONS PROJECTS** 5 credits
Prerequisites: 234 and 241. Provides workshop for the accomplished student to apply learned material. Projects involve systems design and implementation using COBOL.
- 252 JOB CONTROL LANGUAGE** 1 credit
Prerequisite: 234. Explanation of JOB, EXEC and DD statements and their associated parameters. JCL procedures and overrides.
- 261 CICS CUSTOMER INFORMATION CONTROL SYSTEM** 3 credits
Prerequisite: 234. Basic concepts of CICS for on-line transaction processing.
- 262 COBOL EFFICIENCY** 2 credits
Prerequisite: 234. Provides students with opportunity to enhance their knowledge of COBOL language. The development of COBOL, its facility for change and its place in today's businesses.
- 263 DATA-BASE CONCEPTS** 3 credits
Prerequisites: 234, 241. Fundamental concepts of three main types of data-base management systems, their similarities and differences. Data-base design project required. No programming.
- 265 PROGRAMMING ETHICS AND SECURITY** 2 credits
Prerequisite: 133. Legal principles specific to field of data processing; potential for computer-oriented crimes and security measures necessary for their prevention.
- 266 BASIC FOR PROGRAMMERS** 3 credits
Prerequisite: 133 or permission of coordinator. To familiarize students with important programming techniques and concepts in BASIC language. Emphasis on complex interactive business applications programs using microcomputers.
- 267 4GL FOR MICROS: dBASE III+** 3 credits
Prerequisite: 133. Provides instruction in the development of microcomputer systems using dBase III Plus as a fourth generation language.
- 290 SPECIAL TOPICS: DATA PROCESSING** 1-3 credits
Prerequisite: permission. Seminar in topics of current interest in data processing or special individual student projects in data processing.

- 207 TECHNIQUES OF MERCHANDISING RESEARCH** 2 credits
Prerequisite: 2420:101. Introduction to merchandising research. Uses of research for merchandisers, concepts in planning research. Approaches to research in a non-mathematical approach to analysis. Case histories of small merchandisers.
- 210 CONSUMER SERVICE FUNDAMENTALS** 2 credits
Prerequisite: 2420:101. Discussion of problems facing business today created by social issues in society. Emphasis on understanding viewpoints of all groups involved.
- 211 MATHEMATICS OF RETAIL DISTRIBUTION** 3 credits
Prerequisite: 2420:170. Basic course dealing with merchandising mathematics. Includes understanding markup types, retail method of inventory (sales and stock planning), and open-to-buy computations.
- 212 PRINCIPLES OF SALES** 3 credits
Study of basic principles of selling, emphasizing individual demonstrations and sales projects. Includes review of sales function as integral part of marketing process.
- 215 ADVERTISING PROJECTS** 2 credits
Prerequisites: 103, 106. A workshop for students interested in developing their advertising and creative promotional skills. Projects would include "real world" situations facing prospective users of advertising.
- 217 MERCHANDISING PROJECTS** 2 credits
Prerequisites: 2420:101; 202.* Students would be charged with "creating" a retail operation including the establishment and defense of planning, site selection, merchandise and pricing, and promotion strategies.
- 219 SALES PROJECTS** 2 credits
Prerequisite: 212*. Allows students to sharpen skills necessary to make an effective sales presentation. Extensive use of video-tape analysis. Team as well as individual sales presentations.
- 221, 222 AAF ADVERTISING CAMPAIGN I, II** 2 credits each
Prerequisite: permission. These sequential courses have one function: to have students prepare an entry for the annual American Advertising Federation's Collegiate Advertising Competition.
- 234 HUMOR IN ADVERTISING** 2 credits
Course looks at humor in our society and how and why it has been used by advertising practitioners; uses individual and group projects.
- 290 SPECIAL TOPICS: MARKETING AND SALES** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in sales and merchandising.

OFFICE ADMINISTRATION 2540:

- 119 BUSINESS ENGLISH** 3 credits
Fundamentals 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 INTRODUCTION TO OFFICE PROCEDURES** 3 credits
Introduction to concepts regarding role of office worker, human relations, communications, productivity, reference materials, technological advances in processing information and employment opportunities.
- 125 ELECTRONIC BUSINESS CALCULATIONS** 2 credits
Applied business problems in retailing, payroll, interest, taxes, metrics, proration, percentages, inventories, amortization, and basic statistics using 10-key electronic calculators and personal computers.
- 129 INFORMATION/RECORDS MANAGEMENT** 3 credits
Overview of records used in business. Includes filing procedures, equipment, supplies, classification systems, alphabetic rules, electronic database systems, and management and control of records systems.
- 130 INTRODUCTION TO OFFICE AUTOMATION** 4 credits
Prerequisites: 129, 150 or permission. Introduction to the equipment necessary to work in today's office. Hands-on training using several types of automated office equipment.
- 131 COMPUTERIZED DOCUMENT CONTROL** 4 credits
Prerequisite: 130. A study of the planning and controlling of documents from the time of their creation until their final disposition with emphasis on automated storage and retrieval systems.
- 140 KEYBOARDING FOR NONMAJORS** 2 credits
Beginning typewriting for the non-secretarial student. Fundamentals in the operation of the typewriter; application emphasis on individual student needs such as resumes, application letters and forms, term reports, abstracting, etc. Credit not applicable toward associate degree in office administration.
- 141 PC WORD PROCESSING FOR NONMAJORS** 2 credits
Prerequisites: 150 or 140, or permission. Introduction to word processing software for non-office administration majors. Training on personal computers for personal and business communication using various word processing software.
- 150 BEGINNING KEYBOARDING** 3 credits
For the beginning student or one who desires a review of fundamentals. Includes basic keyboard, letters, tables and manuscripts. Minimum requirement: 30 wpm with a maximum of 5 errors for 3 minutes.
- 151 INTERMEDIATE KEYBOARDING** 3 credits
Prerequisite: 150 or equivalent. Further development of typewriting. Advanced letter styles, forms, reports and shortcuts. Minimum requirement: 40 wpm with a maximum of 5 errors for 5 minutes.
- 171 SHORTHAND PRINCIPLES** 4 credits
Gregg shorthand theory is taught. Minimum attainments: reading from notes at 100 wpm and taking dictation from new material at 50 wpm for 3 minutes. Credit not allowed if taken after 172.
- 172 SHORTHAND REFRESHER AND TRANSCRIPTION** 4 credits
Accelerated review of Gregg shorthand theory. Minimum attainments: reading from notes at 100 wpm and taking dictation from new material at 60 wpm for 3 minutes. Credit allowed if taken after 171.
- 173 SHORTHAND AND TRANSCRIPTION** 4 credits
Prerequisite: 171; corequisite or prerequisite: 151. Emphasis on developing skill in taking shorthand dictation and transcribing at typewriter. Minimum speed attainment of 70 wpm for 5 minutes on new material required.

*May be taken concurrently.

MARKETING AND SALES TECHNOLOGY 2520:

- 103 PRINCIPLES OF ADVERTISING** 3 credits
Review of basic principles and functions of current advertising practice. Includes overview of related distributive institutions, media types and economic functions of advertising.
- 106 VISUAL PROMOTION** 3 credits
Studio course in retail display and promotion techniques. Window, interior and point of purchase categories; principles of design as applied to commercial art; function in visual design, elements of design, color theory, lettering, printing process, layout to camera-ready art.
- 201 PRINCIPLES OF WHOLESALING** 3 credits
Examination of wholesaler and wholesaling function. Attention given to buying process and relationship of ultimate consumer to wholesaler.
- 202 RETAILING FUNDAMENTALS** 4 credits
Presents basic principles and practices of retailing operations, including site selection, buying, pricing and promotion practices. Use is made of extensive projects and investigations and actual retail operations.
- 203 FUNDAMENTALS OF INDUSTRIAL DISTRIBUTION** 3 credits
Prerequisite: 2420:101. An introductory examination of the industrial distribution network and pertinent middlemen involved. Includes wholesalers, service institutions and other channel members.

- 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** 2-3 credits
Prerequisites: 119; 121; 129; 130; 253; 270; and 281. Work experience in an office environment related to the student's degree major. Application of office administration skills/knowledge.
- 247 AUTOMATED OFFICE SYSTEMS** 4 credits
Prerequisite: 131. Examination of automated methods of controlling information. Application of office information management techniques.
- 248 ADVANCED OFFICE TECHNOLOGIES** 3 credits
Prerequisites: 131; 247. Study and application of advanced automated office systems. Emphasis on the automation of administrative support functions.
- 253 ADVANCED KEYBOARDING/WORD PROCESSING** 3 credits
Prerequisites: 151 or equivalent. To increase student's ability to produce office documents on computers. Minimum requirement: 50 wpm with maximum of 5 errors for 5 minutes.
- 255 LEGAL OFFICE PROCEDURES I** 3 credits
Prerequisite: 151. Concentration on ethics, responsibilities, and document production for the career legal secretary.
- 263 BUSINESS COMMUNICATIONS** 3 credits
Prerequisites: 119 and 2020:121 or equivalent. Business writing with emphasis on communicating in typical business situations and expressing ideas effectively to achieve specific purposes. Includes business letters, memoranda, application letters, resumes and a business report.
- 264 ADVANCED BUSINESS COMMUNICATIONS** 3 credits
Prerequisite: Business Communications or equivalent. Provides information about and practice in oral and advanced written communications to strengthen skills necessary in today's business world.
- 265 WOMEN IN MANAGEMENT** 3 credits
Deals with gender-related needs and problems of women in management and supervision.
- 270 OFFICE SOFTWARE APPLICATIONS** 4 credits
Prerequisites: 130; 253. An advanced course in document production incorporating databases, spreadsheets, and graphics into various types of documents.
- 271 DESKTOP PUBLISHING** 3 credits
Prerequisites: 253 or permission. Desktop publishing software used to create printed materials such as newsletters, brochures, business forms, and resumes. Course addresses design/layout decision and editing for the office worker.
- 274 ADVANCED DICTATION AND TRANSCRIPTION** 4 credits
Prerequisite: 173 or equivalent. Emphasis on building dictation speed, producing mailable transcripts, increasing business and shorthand vocabulary and reviewing theory and expert shortcuts. Minimum speed attainment: 90 wpm for 5 minutes.
- 275 ADMINISTRATIVE OFFICE PROCEDURES** 3 credits
Prerequisites: 125, 253, 264, Corequisite: 281. An integrated approach in applying the knowledge and skills necessary to perform efficiently and effectively in an office administration career.
- 276 EXECUTIVE DICTATION AND TRANSCRIPTION** 4 credits
Prerequisite: 274. Final shorthand course in Executive Secretarial program. Development of skills to level of employability in business office. Emphasis on vocabulary building in specialized areas of modern business and technology. Speed range: 100-140 wpm.
- 277 LEGAL DICTATION AND TRANSCRIPTION** 4 credits
Prerequisite: 274. Develops shorthand and transcription skills of legal correspondence, basic pleadings, legal papers, reports and rules of practice. Minimum speed at end of course is 100 wpm.
- 279 LEGAL OFFICE PROCEDURES II** 4 credits
Prerequisite: 255. Provides an understanding of various facets of the law, when and how to use documents, important legal procedures and typical office routine.
- 281 MACHINE TRANSCRIPTION** 2-3 credits
Prerequisites: 151 or permission. Transcription skills such as proofreading and editing emphasized on the transcription from taped dictation with emphasis on mailable documents — production of such on computers.
- 290 SPECIAL TOPICS: SECRETARIAL SCIENCE** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in office administration.

TRANSPORTATION

2560:

- 110 PRINCIPLES OF TRANSPORTATION** 3 credits
Analysis of role of transportation in nation's economic development. Survey of historical development and economic aspects of 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, rates, regulations, fares, tariffs, operations, equipment and financial aspects.
- 116 AIR TRANSPORTATION** 2 credits
Prerequisite: 110. Analysis of economic characteristics of commercial air industry. Study of its problems, practices, regulations, rates, fares, tariffs and services.
- 117 WATER TRANSPORTATION** 2 credits
Prerequisite: 110. Theories, practices, regulations of inland and ocean-going water transportation including classification, rates, practices and tariffs.
- 118 TRANSPORTATION RATE SYSTEMS** 3 credits
Analysis of freight rates, tariffs and classifications with particular attention to their application in motor transport field and extensive study through progressive problem solving.
- 221 TRAFFIC AND DISTRIBUTION MANAGEMENT** 3 credits
Prerequisite: 110. Principles and practices applicable to industrial traffic management and factors affecting transportation decisions. Some items analyzed are operations, services, warehousing, privileges and documentation.
- 222 MICROCOMPUTER APPLICATIONS IN TRANSPORTATION** 3 credits
Corequisite: 2440:120. Microcomputer solutions to selected transportation problems. Lease vs. buy analysis, modal selection based on cost, use of transportation algorithms, and computer simulations.

- 224 TRANSPORTATION REGULATION** 3 credits
Prerequisite: 110. 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
Review of federal regulations covering hazardous material shipments; identification and classification of hazardous materials; marking; labeling; placarding; and documentation.
- 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. Overview of the ticketing process and the use of the *Official Airline Guide*. Use and preparation of tour orders, ticket exchange notices, refund notices and internal documents used by travel agent organizations.
- 230 TOUR PLANNING AND PACKAGING** 2 credits
Prerequisite: 228. Planning and packaging of independent and escorted tours. Cost estimating, time distribution, itinerary preparation and routing. Cruise, hotel, and rental car operations are also examined.
- 231 COMPUTERIZED RESERVATIONS I** 2 credits
Prerequisite: 228. Corequisite: 229. Hands-on experience in computerized reservation entries and applications. Course is offered off-campus at an area travel agency using a major airline reservations system.
- 232 COMPUTERIZED RESERVATIONS II** 2 credits
Prerequisite: 231. Continuation of 231. Advanced computerized reservations topics are examined. Off-campus location.
- 290 SPECIAL TOPICS: TRANSPORTATION** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics, subject areas in transportation.

HISTOTECHNOLOGY

2730:

- 225 HISTOTECHNOLOGY PRACTICUM** 5 credits
Prerequisites: 3100:366 and permission. Instruction and practical experience in a cooperative hospital, research laboratory.
- 290 SPECIAL TOPICS IN HISTOTECHNOLOGY** 1-2 credits
Prerequisite: permission. Selected topics or subject areas of interest.

MEDICAL ASSISTING

2740:

- 100 INTRODUCTION TO MEDICAL ASSISTING** 2 credits
Medical assistant role on allied health team, history of medicine, medical practice, medical law and ethics, patient reception, oral and written communications, scheduling.
- 120 MEDICAL TERMINOLOGY** 3 credits
Vocabulary and terms used by medical personnel. Usage and spelling of medical terms.
- 121 STUDY OF DISEASE PROCESSES FOR MEDICAL ASSISTING** 3 credits
Prerequisite: 120. Review of medical terminology, study of diseases and treatments of all body systems, and grieving process.
- 135 MEDICAL ASSISTING TECHNIQUES I** 4 credits
Prerequisites: 100; 120 or permission. Co-requisite: 120. Introduction to medical laboratory, theory and practice in preparation for physical examinations, vital signs, EKG, microbiology, medical and surgical asepsis, medical law and ethics.
- 230 BASIC PHARMACOLOGY** 3 credits
Introduction to history of drugs, standardization, legislation, action and classification with emphasis on responsibilities of administration, dosage, drug action, adverse effects and the metric system.
- 235 MEDICAL ASSISTING TECHNIQUES II** 4 credits
Prerequisite: 135. Theory and practice in minor hematology laboratory tests, urinalysis, administering medications, and assisting with minor office surgery.
- 240 MEDICAL MACHINE TRANSCRIPTION** 3 credits
Prerequisites: 2540:151; 120. Designed to correlate medical terminology with secretarial skills and includes practice in various machines used in dictation and transcription found in medical offices.
- 241 MEDICAL RECORDS*** 3 credits
Prerequisites: 2540:130; 120. Preparing and handling medical records and reports used in hospitals and physicians' offices; filing procedures and systems; insurance forms; billing.
- 250 MEDICAL ASSISTING SPECIALTIES** 3 credits
Prerequisites: 121, 235. Provides student precise knowledge in medical specialties.
- 260 EXTERNSHIP IN MEDICAL ASSISTING** 3 credits
Prerequisites: 135 and permission. A period of practical experience held in the office of a qualified physician.
- 290 SPECIAL TOPICS: MEDICAL ASSISTING** 1-2 credits
Prerequisite: permission. Selected topics or workshops of interest in medical assisting technology.

RADIOLOGIC TECHNOLOGY

2760:

- 101 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.
- 140 MEDICAL AND SURGICAL DISEASES, RADIOLOGY** 3 credits
Prerequisites: 101 and 161. Fundamental principles of disease processes, functional derangements. Background in pathology needed for radiographer will be provided by lecture and demonstrations.
- 161 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY I** 2 credits
Prerequisites: 2020:131 and permission. Introduction to systems of measurement. Matter, force, motion, work, power, energy, basic electricity and magnetism.
- 165.6 RADIOGRAPHIC PRINCIPLES I, II** 3 credits, 2 credits
Sequential. Prerequisite: 161. Elementary principles of ionizing radiation and their application in medical setting. Radiographic accessories and chemical processing of exposed x-ray film.
- 170 RADIOGRAPHIC POSITIONING I** 3 credits
Corequisite: 101. Introductory course in instructing student in basic positioning nomenclature and radiologic 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
Corequisites: 101 and 170. Introduction to clinical procedures including clinical experience in hospital radiology departments. Lectures and laboratory experience correlated and clinical experience closely supervised. Film critique stressed. Observation rotation through nuclear medicine, therapy and diagnostic techniques. Largely student observation.
- 185 CLINICAL APPLICATION II** 4 credits
Prerequisite: 184. Continuation of 184 with more involvement by student continuing under close supervision. Special procedures introduced. Student observations and student participation.
- 230 RADIOGRAPHIC TECHNIQUE AND CONTROL** 3 credits
Prerequisite: 261. Technique and control as related to basic positioning procedures for various parts of body. Relationship among electricity, time, distance, films and contrast on radiograph. A student performs experiments to demonstrate effects of these factors. Energized but nonclinical equipment utilized.
- 261 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY II** 3 credits
Prerequisite: 161. Fundamentals of electricity and radiation physics. Principles of x-ray equipment and other radiation sources used in medical setting.
- 272 RADIOGRAPHIC POSITIONING III** 3 credits
Prerequisite: 171. Continuation of 171. Includes additional positioning and refinement of positioning strategies. Laboratory.
- 273 RADIOGRAPHIC POSITIONING IV** 3 credits
Prerequisite: 272. Continuation of 272 utilizing advanced techniques and providing concentration of different age groups in positioning care and special techniques for pediatric and geriatric patients. Laboratory.
- 286 CLINICAL APPLICATION III** 5 credits
Prerequisite: 185. Summer clinic internship in which student practices all radiographic procedures under supervision. Some independent performance with minimal supervision.
- 287 CLINICAL APPLICATION IV** 4 credits
Prerequisites: 286 and permission. Clinical performance with supervision. Application at an advanced level. Special techniques, nuclear medicine, therapy, medical surgical pathology, film examination and critique. Maintenance of equipment, department administration, ethical, legal and professional responsibilities. Clinical experience in hospital radiology departments.
- 288 CLINICAL APPLICATION V** 4 credits
Prerequisite: 287. Clinical experience and minimally supervised clinical procedures of diagnostic radiography.
- 289 CLINICAL APPLICATION VI** 5 credits
Prerequisite: 288. Continuation of 288; final internship. Terminal course including review, lecture on correlation and interpretation of radiologic technology. Prepares student for certification examination.
- 290 SPECIAL TOPICS: RADIOLOGIC SCIENCE** 1-3 credits
(May be repeated with a change in topic) Prerequisite: permission. More advanced study in one or more topics in radiologic 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** 4 credits
Prerequisite: admission to the program. Study of basic principles which underlie patient care in the operating room. Role of operating room technician and legal and ethical responsibilities defined.
- 121 SURGICAL ASSISTING PROCEDURES I** 2 credits
Prerequisite: Admission to the program. Didactic and laboratory practice in principles and practices of surgical asepsis, 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** 2 credits
Corequisites: 100 and 121. Student assigned to surgical service of affiliated hospitals. Emphasis on aseptic techniques and skills associated with their implementation.
- 148 SURGICAL ANATOMY I** 3 credits
Prerequisite: 3100:206. Emphasis on human anatomy and understanding the body in its three dimensions and the relationships of parts to one another in the various surgical specialties.
- 151 CLINICAL EXPERIENCE I** 2 credits*
Corequisites: 100, 121. Clinical experience in campus laboratory and surgical unit of affiliated hospitals. Emphasis on aseptic techniques, patient care concepts and suture techniques.

- 152 CLINICAL EXPERIENCE II** 3 credits
Prerequisites: 100; 121; 151. Corequisite: 148. Students assigned to assist in surgery and carry out preoperative and postoperative care procedures under supervision of surgeon or resident surgical staff.
- 153 CLINICAL EXPERIENCE III** 5 credits
Prerequisite: 152. Students assigned to surgical services of affiliated hospitals to assist in surgery and carry out preoperative and postoperative care procedures as assigned by, and under supervision of, surgeon or resident surgical staff.
- 222 SURGICAL ASSISTING PROCEDURES II** 4 credits
Prerequisite: 121. Continuation of 121.
- 232 CLINICAL APPLICATION II** 5 credits
Prerequisite: 131; corequisite: 222. Student assigned to surgical service of affiliated hospitals. Emphasis on "scrubbing" on general surgery and gynecology procedures.
- 233 CLINICAL APPLICATION III** 5 credits
Prerequisites: 232 and 222. Student assigned to surgical service of affiliated hospitals. Emphasis on "scrubbing" in the specialty areas.
- 234 CLINICAL APPLICATION IV** 2 credits
Prerequisites: 232 and 242. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative care procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.
- 235 CLINICAL APPLICATION V** 3 credits
Prerequisite: 234. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.
- 236 CLINICAL APPLICATION VI** 3 credits
Prerequisite: 235. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative care procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.
- 243 INTRODUCTION TO MEDICINE** 2 credits
Prerequisites: 241, 242. Pathophysiology, clinical manifestations, therapeutic management of surgically related disorders.
- 244 MEDICAL HISTORY AND PHYSICAL EVALUATION** 2 credits
Prerequisites: 241, 242. Introduction to techniques of obtaining medical histories and physical evaluations. Techniques of interviewing and physical diagnosis.
- 245 ROENTGENOGRAPH ASSESSMENT** 1 credit
Prerequisite: 242. Roentgenogram assessment and its use as a diagnostic tool. Recognition of gross abnormalities in roentgenograms of the head, neck, chest, abdomen, pelvis and extremities.
- 246 MEDICAL LABORATORY PROCEDURES** 1 credit
Prerequisite: 242. Introduction of collection, preparation, and analysis of biological fluids and other substances through standard procedures utilized in medical laboratories to aid the physician in diagnosis, treatment and prevention of disease.
- 247 PULMONARY ASSESSMENT AND ELECTROCARDIOGRAPHY** 2 credits
Prerequisite: 242. Oxygen administration, humidity control, breathing exercises, postural drainage, percussion techniques, intermittent positive pressure breathing, management of ventilators and bedside ventilation measurements. Electrocardiogram recording techniques, interpretation of electrocardiographic abnormalities-arrhythmias.
- 249 SURGICAL ANATOMY II** 3 credits
Prerequisite: 148. Emphasis on human anatomy and understanding the body in its three-dimensions and the relationships of parts to one another in the various surgical specialties.
- 254 CLINICAL EXPERIENCE IV** 3 credits
Prerequisite: 153. Student assigned to surgical services of affiliated hospital to assist in surgery and carry out preoperative and postoperative care procedures as assigned by, and under supervision of, surgeon or resident surgical staff.
- 255 CLINICAL EXPERIENCE V** 5 credits
Prerequisite: 254. Student assigned to surgical services of affiliated hospitals to assist in surgery and carry out preoperative and postoperative care procedures as assigned by, and under supervision of, surgeon or resident surgical staff.
- 256 PRIMARY CARE: CLINICAL EXPERIENCE** 2 credits
Prerequisites: 243; 244. Instruction in essentials of establishing a health status data base through patient interviewing and physical examination. Clinical practice in performance offered in real and/or simulated situation.
- 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** 2 credits
History of physical therapy, survey of treatment procedures. Role and rationale for physical therapist assistant. Legal, ethical responsibilities.
- 106, 107 ANATOMY AND PHYSIOLOGY FOR ALLIED HEALTH I, II** 3 credits each
Prerequisite: permission. Introduction to the study of human structure and function. No laboratory. (Will not satisfy General Studies science requirement.)
- 290 SPECIAL TOPICS: ALLIED HEALTH** 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in allied health.

RESPIRATORY CARE

2790:

- 121 INTRODUCTION TO RESPIRATORY CARE** 3 credits
Prerequisite: admission to program. Basic science and laws governing gases as well as appliances to administer and monitor oxygen. Covers equipment used to generate and give aerosol therapy. Lecture/laboratory.

- 122 RESPIRATORY PATIENT CARE** 3 credits
Prerequisite: 2780:106 (or equivalent). Corequisite: 2780:107 (or equivalent). Covers basic hospital practices in sterile technique, suctioning and postural drainage. Lecture/laboratory.
- 123 MECHANICAL VENTILATORS** 3 credits
Prerequisite: 122, 131, 141. Introduction to different brands of ventilators and their functions. Airway and airway complications.
- 131 CLINICAL APPLICATIONS I** 3 credits
Prerequisites: 121, 2780:106. Corequisite: 2780:107. Full admission to the program. (Implies the student has a clinical space. Students identified as Alternates do not have a clinical space.) Introduction to work in hospital and hands-on experience on hospital equipment. Laboratory.
- 132 CLINICAL APPLICATIONS II** 2 credits
Prerequisites: 122, 131, 141, 2780:107 (or equivalent). First of several rotations through hospitals. Mechanical ventilation is stressed.
- 133 CLINICAL APPLICATIONS III** 5 credits
Prerequisites: 123, 132, 201. Semester is broken into three, five-week rotations, one at each hospital to cover specialty area for that site. Laboratory.
- 134 CLINICAL APPLICATIONS IV** 5 credits
Prerequisites: 133, 142, 223. Semester has three, five-week sessions. They will be spent at different clinical sites working on their specialty areas. Laboratory.
- 141 PHARMACOLOGY** 2 credits
Corequisites: 2840:100 and 3100:130. Drugs administered by respiratory therapy and effect, route of action in the body. Lecture.
- 142 PATHOLOGY FOR RESPIRATORY CARE** 2 credits
Prerequisites: 201, 3100:130. Discussion of disease processes, diseases of lung and heart, their effect on respiratory therapy.
- 201 ANATOMY AND PHYSIOLOGY OF CARDIOPULMONARY SYSTEMS** 3 credits
Prerequisite: 2780:107 (or equivalent). Study of normal anatomy and physiology of heart and lungs. Lecture.
- 223 ADVANCED RESPIRATORY CARE** 3 credits
Prerequisites: 123, 201. Covers EKG, Pulmonary functions, research studies and radioactive pulmonary function studies. Lecture/laboratory.
- 224 PULMONARY REHABILITATION AND THE RESPIRATORY CARE DEPARTMENT** 2 credits
Prerequisites: 142, 223. Covers area of pulmonary rehabilitation. Includes essentials of establishing a respiratory therapy department. Lecture/laboratory.
- 290 SPECIAL TOPICS: RESPIRATORY CARE** 1-3 credits
(May be repeated for a maximum of three credits) Prerequisite: permission. Selected topics or subject areas of interest in respiratory therapy technology.

- 105 CHEMICAL CALCULATIONS I** 1 credit
Corequisite: 101 or permission of instructor. Calculations as applied to introductory chemistry courses. Topics include unit conversions, percentages, graphs, significant figures, moles. Suitable as a refresher course.
- 106 CHEMICAL CALCULATIONS II** 1 credit
Corequisite: 102 or permission of instructor. Continuation of calculations review for introductory chemistry. Chemical equilibria, concentrations, pH, solubility products, redox reactions, calorimetry.
- 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.
- 201 QUANTITATIVE ANALYSIS** 4 credits
Prerequisite: 102. Theory of quantitative analytical chemistry including gravimetric, volumetric and electrochemical procedures. Laboratory.
- 202 INSTRUMENTAL METHODS** 4 credits
Prerequisites: 201 and one year of physics; or permission. Instrumentation employed in qualitative and quantitative analysis. Theory and practice in chromatographic, spectrophotometric and other instrumental methods. Laboratory.
- 210 SCIENTIFIC GLASS BLOWING** 1 credit
Laboratory instruction in art of glass blowing. Fabrication and blowing of scientific glassware and chemical apparatus.
- 250 ELEMENTS OF PHYSICAL CHEMISTRY** 3 credits
Prerequisites: 102, 2820:153, 2030:154. Physical principles governing behavior of chemical systems. Introductory thermodynamics, solution properties, chemical equilibrium, phase rule, chemical kinetics and structure of matter. Laboratory.
- 255 LITERATURE OF SCIENCE AND TECHNOLOGY** 1 credit
Prerequisite: permission. Literature of science and technology as used to gather technical information. Techniques of abstracting and the computer search.
- 260 COMPOUNDING METHODS** 2 credits
Prerequisites: 102, 121 or permission. Principles and methods of selecting and compounding rubber for specific end uses. The compounding art. Processing and testing of basic elastomers and products. Laboratory.
- 270 NATURAL AND SYNTHETIC ORGANIC POLYMERS** 4 credits
Prerequisite: 121 or permission. Structure and properties of macromolecules with particular reference to carbohydrates, proteins, nucleic acids, rubber, synthetic thermoplastic, thermosetting and elastomeric polymers.
- 290 SPECIAL TOPICS: CHEMICAL TECHNOLOGY** 1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in chemical technology.

GENERAL TECHNOLOGY

2820:

- 100 INTRODUCTION TO ENGINEERING TECHNOLOGY** 2 credits
Introductory course describing various engineering technologies in terms of job skills, nature of careers, and employment opportunities. Overview of technical terminology.
- 121 TECHNICAL COMPUTATIONS** 1 credit
Prerequisite: 2030:151; corequisite for drafting technology students only: 2940:151. Use of computer to solve typical problems in engineering technology. Concepts of flow charting, looping, variables, arrays, subroutines examined. BASIC computer language introduced.
- 131 SOFTWARE APPLICATIONS FOR TECHNOLOGY** 1 credit
Prerequisite: 2030:151. Emphasis will be on spreadsheets and databases to solve technical problems and incorporating results in technical reports. Limited to Engineering and Science Technology students.
- 161 TECHNICAL PHYSICS: MECHANICS I** 2 credits
Corequisite: 2030:152. Principles of mechanics. Topics include force vectors, laws of motion, work-energy relationships, and equilibrium. Laboratory.
- 162 TECHNICAL PHYSICS: MECHANICS II** 2 credits
Prerequisite: 161; corequisite: 2030:153. Principles of mechanics. Topics include motion in a plane, momentum, rotation, harmonic motion and sound laboratory.
- 163 TECHNICAL PHYSICS: ELECTRICITY AND MAGNETISM** 2 credits
Prerequisites: 161; corequisite: 2030:153. Principles of electricity and magnetism. Electrostatics, basic direct current circuits, magnetism and electromagnetism, alternating currents, basic AC circuits. Laboratory.
- 164 TECHNICAL PHYSICS: HEAT AND LIGHT** 2 credits
Prerequisites: 161 and 2030:153. Topics include thermal behavior of matter, thermodynamics, light, geometric and physical optics. Introduction to atomic and nuclear physics.
- 310 FORTRAN FOR TECHNOLOGISTS** 2 credits
Prerequisites: 121 and 2030:153. Introduction to structured Fortran 77 programming and Hewlett-Packard computer system. Emphasis on programming to solve technical problems. Limited to students in Engineering and Science Technology Division.

CHEMICAL TECHNOLOGY

2840:

- 100 BASIC CHEMISTRY** 3 credits
Elementary treatment of facts and principles of chemistry emphasizing biological application. Elements and compounds important in everyday life, biological processes and medicine. Introduction to laboratory techniques. Primarily for medical assistant, criminal justice and allied health students. Laboratory.
- 101 INTRODUCTORY CHEMISTRY** 3 credits
Facts and theories of general chemistry. Elements and compounds and their uses. Elementary treatment of atomic structure, gaseous state, periodic table, water, solutions. For chemical technology and bachelor of technology students. Laboratory.
- 102 INTRODUCTORY AND ANALYTICAL CHEMISTRY** 3 credits
Prerequisite: 101 or permission. Chemical equilibria, ionization, radioactivity. Properties of selected metals and nonmetals. Introduction to organic chemistry. Basic concepts of qualitative analysis. Identifications of cations and anions. Laboratory.

ELECTRONIC TECHNOLOGY

2860:

- 110 BASIC ELECTRICITY AND ELECTRONICS** 4 credits
Prerequisite: 2030:130 or equivalent. Principles of electronics: resistors, inductance, capacitance, transistors, microprocessors, power sources, motors, generators, test equipment, circuit diagnosis, troubleshooting. Credit not applicable toward the A.A.S. in Electronic Technology.
- 120 DC CIRCUITS** 4 credits
Corequisite: 2030:152, 153. Nature of electricity, current and voltage, Ohm's Law, network analysis, DC instruments, magnetism, inductance, capacitance, transients and time constants.
- 122 AC CIRCUITS** 3 credits
Prerequisite: 120; corequisites: 2030:154 and 2820:121. Sinusoidal voltage and currents, reactance and impedance, methods of AC circuit analysis, AC power, transformers, resonance, polyphase circuits.
- 123 ELECTRONIC DEVICES** 3 credits
Corequisite: 122. Physical theory, characteristics, operational parameters and incircuit consideration of solid-state electronic devices.
- 136 INTRODUCTION TO DIGITAL CONCEPTS** 1 credit
Prerequisite: 120. Introduction to devices and techniques used in the design of combinational logic circuits. Topics include number systems, various arithmetic codes, Boolean algebra and Karnaugh mapping.
- 225 ELECTRONIC DEVICES APPLICATIONS** 4 credits
Prerequisite: 123. Linear devices and/or pertinent applications widely used in electronics. Topics include amplifier fundamentals, frequency response, operational amplifiers, special linear integrated circuits and power amplifiers.
- 227 MEASUREMENTS** 2 credits
Prerequisite: 123 or 271. Principles and use of electrical and electronic instruments including moving coil instruments, bridges, oscilloscopes and signal generators. Analysis of measurement errors.
- 231 CONTROL PRINCIPLES** 3 credits
Prerequisites: 225 or 271, 2030:255. Principles and design of control of physical systems. Mathematical and analog computer modeling of physical systems. Principles of closed-loop control systems. Methods of analysis to predict performance. Design of simple servomechanisms.
- 237 DIGITAL CIRCUITS** 4 credits
Prerequisites: 123 and 136. Introduction to devices and techniques used in design of combinational logic circuits. Topics include number systems, binary arithmetic, codes, Boolean algebra, Karnaugh mapping, and integrated circuit and its application in combinational solutions such as data selection, bridging, symmetrical functions and ROM synthesis.
- 236 MICROPROCESSOR FUNDAMENTALS** 4 credits
Prerequisite: 237. Continuation of combinational logic design plus introduction to sequential logic design and microcomputer. Integrated circuit information extended into MOS and CMOS devices. Microprocessors application.
- 242 MACHINERY AND CONTROLS** 4 credits
Prerequisites: 122 and 123 or 271. Principles, characteristics and applications of DC and AC generators and motors. Basic control circuits for rotating machinery. Principles of industrial electronic devices used in machinery control such as unijunctions, SCRs, triacs, diacs. Laboratory practice with industrial machines in practical industrial circuits.

- 251 COMMUNICATIONS CIRCUITS** 3 credits
Prerequisite: 225. Principles of radio-wave propagation, modulation and demodulation. Fundamentals, components and circuits of communication systems. Electrical and magnetic fields, antennas and propagation.
- 255 ELECTRONIC DESIGN AND CONSTRUCTION** 2 credits
Prerequisite: 123. General and electronic drafting fundamentals and techniques with emphasis on printed circuit boards. General shop safety practices. Care and use of hand tools and power tools. Chassis and sheet metal layout and fabrication; printed circuit board fabrication; metal finishing and packaging techniques. Performance testing and troubleshooting.
- 260 ELECTRONIC PROJECT** 2 credits
Prerequisites: final semester or permission and 255. Design, construction and test by student of an electronic circuit of choice. Progress reports, oral and written reports required. Discussion of electronic design and fabrication techniques.
- 270 SURVEY OF ELECTRONICS I** 3 credits
Corequisite: 2030:152, 153. Fundamentals of electrical circuits. Surveys of electromechanical devices emphasizing electrical/mechanical interface. For non-electronic technology majors.
- 271 SURVEY OF ELECTRONICS II** 3 credits
Prerequisite: 270; corequisite: 2030:154. Survey of most commonly used solid-state circuit components including typical applications. 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 CIRCUIT THEORY** 3 credits
Prerequisite: 225, 231. Corequisite: 2030:356. Nodal, mesh, Thevenin, and dependent sources in resistive circuits. Inductor and capacitor as time domain elements. First- and second-order circuit analysis. Phasor analysis. Operational amplifier analysis.
- 352 MICRO PROCESSOR SYSTEMS** 4 credits
Prerequisite: 350; corequisite: 350. Detailed study of several digital computing systems including topics in architecture, software and I/O. Specific systems studied include the 8085, 6802, respective support circuits.
- 354 ADVANCED CIRCUIT APPLICATIONS** 4 credits
Prerequisites: 350, 2030:356; and 3460:201 or 3460:205 or 2820:210. Introduction to PSPICE. Calculating electrical power. Series and parallel resonance. LaPlace transforms in operational circuit analysis. Transfer functions, impulse function, Bode diagrams, Fourier Series.
- 400 COMPUTER SIMULATIONS IN TECHNOLOGY** 3 credits
Prerequisites: 2860:354, 2030:345, 3460:201 or 205 or 2820:210. Application of statistics to electronic data. Problems include quality control, failure estimating and synthesizing equations of dependence. Analysis methods include hypothesis estimation, curve fitting regression, correlation and analysis of variance.
- 406 COMMUNICATION SYSTEMS** 3 credits
Prerequisites: 251 and 354. Antennas, transmission lines, matching networks, modulation systems, propagation, noise, radar and microwaves. Problems encountered in communication systems.
- 420 BIOMEDICAL ELECTRONIC INSTRUMENTATION** 3 credits
Prerequisite: 354. Introduction to electrical signals from the body, transducers, recording devices, telemetry, microprocessor applications, and electrical safety of medical equipment.
- 430 SENIOR TOPICS IN ELECTRONIC TECHNOLOGY** 3 credits
Prerequisites: 354, 400. Study of advanced topics in electronic technology.
- 451 INDUSTRIAL ELECTRICAL SYSTEMS** 3 credits
Prerequisites: 354, 3460:201 or 205 or 2820:210. Electric power, industrial nameplates, power factor correction, mutual inductance, linear transformers, power transformers, polyphase systems, per-phase analysis, system grounding, protective device coordination computer-aided analysis.
- 453 CONTROL SYSTEMS** 4 credits
Prerequisites: 231, 354. System analysis and design using Laplace transform, frequency response, Bode diagram, root locus methods of analysis. Analysis and design of control of industrial process variables such as pressure, temperature, flow, liquid level, position. Introduction into AC control systems, discrete control systems, digital control system.
- 497 SENIOR HONORS PROJECT: ELECTRONIC TECHNOLOGY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program, permission of department preceptor and major in electronic technology. Independent research leading to completion of senior honors thesis or other original work.

- 490 MANUFACTURING PROJECT** 2 credits
Prerequisite: Final semester. Advanced CAD/CAM topics are presented. A comprehensive project is undertaken.

MANUFACTURING TECHNOLOGY

2880:

- 100 BASIC PRINCIPLES OF MANUFACTURING MANAGEMENT** 4 credits
A survey of basic concepts of management and their interrelationships to a manufacturing environment. Includes production control, quality control, work measurement, and employee motivation.
- 110 MANUFACTURING PROCESSES** 2 credits
Study of the machines, methods, and processes used in manufacturing.
- 130 WORK MEASUREMENT AND COST ESTIMATING** 3 credits
Prerequisite: 100. Time and motion study. Development of accurate work methods and production standards, and their relationship to manufacturing cost estimates.
- 201 ROBOTICS AND AUTOMATED MANUFACTURING** 3 credits
Prerequisite: 100 or permission of instructor. Study of manufacturing automation and the computer-based products and processes available for this task. Robots, machine controllers, and machine/process interfaces are investigated.
- 210 CONTROLLING AND SCHEDULING PRODUCTION** 2 credits
Prerequisite: 100. Production order followed from sales order through requisitioning, plant loading, expediting, scheduling and shipping. Also covers material control and inventory record keeping. Critical path, linear programming and EDP techniques discussed.
- 211 COMPUTERIZED MANUFACTURING CONTROL** 3 credits
Prerequisite: 100. Processing of production order by computer through requisitioning, plant loading, expediting, scheduling and shipping of product. Creation on computer of material requisitions, plant schedules, sent-to-stocks and shipping orders as by-products of processing production order.
- 221 SURVEY OF MACHINE TOOLS & CNC MACHINERY** 3 credits
Introductory study of the machining process. Basic concepts start with engine lathe and mill and proceed through beginning NC programming.
- 222 COMPUTER NUMERICALLY CONTROLLED MANUFACTURING** 3 credits
Prerequisite: 110, 2030:233. CNC programming for CNC mills and lathes. Includes machine setup, tool selection, as well as feed and speed calculations.
- 231 PLANT LAYOUT** 3 credits
Prerequisite: 100. Solution of activities for a production facility. Optimum arrangements of factors of production: manpower, materials and equipment.
- 232 LABOR MANAGEMENT RELATIONS** 3 credits
Prerequisite: 100. Study of historical background of labor movement, management viewpoints, legal framework for modern labor organizations and collective bargaining process.
- 241 INTRODUCTION TO QUALITY ASSURANCE** 3 credits
Prerequisite: 100 and 2030:152. Theory and practice of inspection and sampling techniques for measurement of quality, QC charts, sampling plans, mill specs, checking machine capabilities and setting tolerances.
- 290 SPECIAL TOPICS: MANUFACTURING TECHNOLOGY** 1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in industrial technology.

INSTRUMENTATION TECHNOLOGY

2900:

- 121 FUNDAMENTALS OF INSTRUMENTATION** 4 credits
Prerequisites: 2820:151 and 2860:123 or 2860:270. Study of variables encountered in process instrumentation, indicating and recording devices and applications of physical principles affecting measurement and control.
- 232 PROCESS CONTROL** 3 credits
Prerequisite: 2860:231. Study of analysis and design of process control systems with emphasis on techniques and instrumentation used in process control. Digital control fundamentals introduced.
- 239 PULSE CIRCUIT TESTING** 3 credits
Prerequisite: 2860:237. General study and analysis of digital circuits and systems. Analog-to-digital and digital-to-analog conversion. Digital troubleshooting and analysis of digital interface.
- 240 CALIBRATION AND STANDARDIZATION** 1 credit
Prerequisite: 2860:231. Laboratory experience in calibration and standardization of electrical, electronic and mechanical systems. Instrument theory, maintenance, troubleshooting, specifications, performance and safe working practices included.
- 241 INSTRUMENTATION PROJECT** 2 credits
Prerequisite: final semester or permission. Design construction and testing of an approved instrumentation project by an individual student, promoting independent study, initiative, assumption of responsibility and application of skills attained in related courses.
- 290 SPECIAL TOPICS: INSTRUMENTATION TECHNOLOGY** 1-2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in instrumentation technology.

AUTOMATED MANUFACTURING TECHNOLOGY

2870:

- 311 COMPUTER-AIDED DRAFTING II** 2 credits
Prerequisite: 2940:210. Continuation of 2940:210. Deals with computer-aided drafting applications. Electrical/electronic, mechanical, construction, and architectural examples are studied.
- 420 MATERIALS AND PROCESSES** 2 credits
Prerequisite: 2920:347. A study of part production from the aspect of the proper selection of materials and processes.
- 441 THE MANAGEMENT AND CONTROL OF QUALITY** 3 credits
Prerequisite: 2880:241. Application of fundamental statistics, sampling, and reliability to the concepts of process control and prevention of defectives. Develops the overall process management system for quality.
- 458 ADVANCED CNC PROGRAMMING** 3 credits
Prerequisite: 2920:448. Part program generation directly from the drafting data base is studied. The Holguin CEADS CADD drafting and APT IV interactive systems are used as models.
- 470 SIMULATION OF MANUFACTURING SYSTEMS** 2 credits
Prerequisite: 2880:211. Computer simulation solutions applied to the traditional manufacturing problems of equipment justification and line balancing.
- 480 AUTOMATED PRODUCTION** 2 credits
Prerequisites: 410, 6500:301, 2920:448. A study of the automated production system. The various topics studied thus far — CAD, CNC, and management are integrated. Several companies are used as case studies.

MECHANICAL TECHNOLOGY

2920:

- 101 INTRODUCTION TO MECHANICAL DESIGN** 3 credits
Prerequisite: 2940:121; corequisite: 2030:132. Topics in engineering drawing: conventions, sections, dimensioning, allowances and tolerances, assembly drawings. Practice dimensional conversions, spreadsheets, test planning, data reduction. Discuss technical ethics and responsibilities.
- 110 FUNDAMENTAL SCIENCE FOR AUTOMOTIVE TECHNOLOGY** 4 credits
Prerequisite: 2030:130 with grade C or better. Scientific relationships of automotive systems: force, work, energy, friction, fluid properties, and thermodynamic principles of the engine. Credit not applicable toward the A.A.S. in Mechanical Technology.
- 122 TECHNICAL DRAWING II** 3 credits
Prerequisite: 2940:121. Sections and conventions; dimensioning; allowances and tolerances; threads and fasteners; descriptive geometry; intersections; developments.
- 142 DESIGN MATERIALS** 3 credits
Fundamental properties of materials. Material testing. Applications of methods to control material properties.
- 201 MECHANICAL DESIGN I** 4 credits
Prerequisite: 2980:125. Principles of stress and strain, combined stress, and Mohr's circle. Experimental stress analysis by strain gage and other methods. Introduction to finite element stress analysis.
- 231 KINEMATICS/DYNAMICS** 3 credits
Prerequisite: 2980:125, 2920:101, 2030:132. Motion in mechanical systems, cams, and gear trains. Computer-generated solutions of rigid-body mechanism, particle motions, displacement, velocity, and acceleration. Work and energy methods.
- 243 KINEMATICS** 2 credits
Prerequisite: 122 and 2980:125. Study of rigid-body motions of simple linkages, cams, gears and gear trains. Graphical vector solutions emphasized. Industrial applications presented.
- 244 DYNAMICS** 2 credits
Prerequisites: 243, 2030:255 and 2980:125. Introduction to particle dynamics, displacement, velocity and acceleration of a constrained rigid body in plane motion. Kinetics of particles and rigid bodies; work and energy, mechanical vibrations.
- 245 MECHANICAL DESIGN II** 5 credits
Prerequisites: 101, 201, 142. Design of machine elements: springs, shafts, fasteners, welded joints. Combined stress and fatigue analysis. Design projects. Experimental stress analysis.
- 247 TECHNOLOGY OF MACHINE TOOLS** 3 credits
Set up and operation of tool room machines: lathe, drill press, shaper, milling machine and tool grinder. Planning operations and layout.
- 249 APPLIED THERMAL ENERGY** 2 credits
Prerequisites: 2030:255, 2820:153. Thermodynamic principles. Study of power cycles. Applications in I.C. engines, compressors, steam power cycles, refrigeration.
- 251 FLUID POWER** 2 credits
Prerequisite: 2840:153. Statics and dynamics of fluids. Viscosity, energy and momentum relationships. Fluid machinery and measurements.
- 252 THERMO-FLUIDS LABORATORY** 1 credit
Prerequisite: 251; corequisite: 249. Laboratory experiments in applied thermal energy and fluid power.
- 290 SPECIAL TOPICS: MECHANICAL TECHNOLOGY** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in mechanical technology.
- 310 ECONOMICS OF TECHNOLOGY** 3 credits
Prerequisite: 64 credits or permission. Economic principles as they pertain to technology. Equivalence, alternatives, costs, depreciation, valuation. Project studies.
- 335 WELDING, THEORY AND PRACTICE** 3 credits
Prerequisite: 242. Design of weldments and welding processes. Welding of ferrous, nonferrous and plastic materials.
- 336 WELDING PROJECTS** 1 credit
Prerequisite: 335. Individual projects containing elements of analysis, design and laboratory implementation.
- 339 ADVANCED TECHNOLOGY OF MACHINE TOOLS** 2 credits
Prerequisite: 247; corequisite: 242. Selected topics dealing with sophisticated metal cutting techniques.
- 346 MECHANICAL DESIGN III** 4 credits
Prerequisite: 245. Continuation of design of mechanical components: gears, bearings, brakes, and clutches. Special topics presented will be coordinated with assigned design projects.
- 348 CNC PROGRAMMING I** 3 credits
Prerequisites: 2940:121, 2030:154. Introduction to numerical control (N/C) of operation of machine tools and other processing machines. Includes programming, types of N/C systems, economic evaluation.
- 360 FUNDAMENTALS OF AUTOMOTIVE SYSTEMS** 3 credits
Prerequisite: 249. System function and interaction of various subsystems. Diagnosis of malfunction of important systems and use of instruments such as vacuum gauge, compression and cylinder leakage test gauges, dwell meter and ignition scope. Laboratory demonstrations with hands-on experience for student dependent on available laboratory time. Field trips to observe operation of computer controlled testing and diagnosis.
- 365 FUNDAMENTALS OF HEATING AND AIR CONDITIONING** 3 credits
Prerequisite: 249. Basic design knowledge of heating and air conditioning. Includes basic heat transfer concepts, heat loss and gain of buildings, human reactions to conditioned atmosphere, heating and cooling load requirements, and variations in type of performance of heating and cooling equipment.
- 402 MECHANICAL PROJECTS** 1 credit
Prerequisite: senior standing. Individual projects emphasizing creative technical design.
- 405 INDUSTRIAL MACHINE CONTROL** 3 credits
Prerequisite: 2860:270. Principles and design of industrial machine control systems. Application oriented study of typical control devices. Utilization of programmable controllers as the system logic controllers.
- 448 CNC PROGRAMMING II** 3 credits
Prerequisite: 348. Introduction to computer-assisted interactive part programming system. Writing of milling and drilling programs.

- 460 MECHANICAL SIMULATION** 3 credits
Prerequisite: 3460:201. Structural, thermal and dynamic aspects of mechanical systems simulated using FORTRAN. Performances studied using both deterministic and trial-and-error methods. Responses in both time and frequency domains to various forcing functions. Prediction of tolerances and performance specifications by statistically studying systems produced by simulated production line.
- 470 INTRODUCTORY PLASTICS DESIGN AND PROCESSING** 3 credits
Prerequisites: 142, 201, and 2840:101 (or permission). Introduction to structure and properties of polymers, selection based on properties and cost, design of products and tools, basic principles of the major processes.
- 495 INSPECTION TOURS** 1 credit
Prerequisite: senior standing. Trips through area industrial plants and technical facilities.
- 497 SENIOR HONORS PROJECT IN MECHANICAL TECHNOLOGY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program, permission of area honors preceptor and major in mechanical technology. Independent research leading to completion of senior honors thesis or other original work.

DRAFTING AND COMPUTER DRAFTING TECHNOLOGY

2940:

- 121 TECHNICAL DRAWING I** 3 credits
Corequisite: 210. Lettering and proper use of drawing instruments; freehand sketching; geometric drawing; orthographic projection; auxiliary views, sections, pictorials; introduction to basic descriptive geometry.
- 122 TECHNICAL DRAWING II** 3 credits
Prerequisite: 121, 210. Covers dimensioning; allowances and tolerances; geometric tolerancing, threads and fasteners; descriptive geometry; intersections; developments; and computer applications.
- 140 SURVEY OF ENGINEERING TECHNOLOGY** 3 credits
Prerequisite: 2030:151. Introductory course in basic concepts pertaining to mechanical, civil and electrical technology. A study of technical terminology, and applied math. Graphical solutions will be emphasized.
- 150 DRAFTING DESIGN PROBLEMS** 2 credits
Prerequisite: 2030:152; corequisite: 2820:121. Introductory course in basic concepts in engineering technology computations. A study of technical terminology and applied mathematics.
- 170 SURVEYING DRAFTING** 3 credits
Prerequisite: 121; corequisite: 2030:152. Drafting procedures, techniques and tools required for the various phases of survey office work. Production of topographic maps, plan and profile drawings, and cross-section drawings.
- 180 INTRODUCTION TO COMPUTER AIDED DRAFTING** 1 credit
Drafting techniques using AutoCAD. Topics include drawing, editing, dimensioning, plotting, layers, and text. Credit not applicable toward the A.A.S. in Drafting Technology.
- 200 ADVANCED DRAFTING** 3 credits
Prerequisite: 122. Principles of descriptive geometry applied to practical problems pertaining to the civil and mechanical fields of technology.
- 210 COMPUTER DRAFTING** 3 credits
Corequisite: 121. Drafting procedures and techniques used for creating drawings using AutoCAD software. Topics include basic components, drawing, editing, dimensioning, layers, text blocks, plotting and hatch.
- 230 MECHANICAL SYSTEMS DRAFTING** 3 credits
Prerequisite: 122. Familiarizes student with drawing fundamentals and terminology of welding, gears, cams, piping, sheet metal, and fluid power drawings.
- 240 ELECTRICAL AND ELECTRONIC DRAFTING** 3 credits
Corequisite: 122. Drafting fundamentals, terms, and symbols required for electrical, electronics, and instrumentation drawings. Included is interconnecting diagrams, PC boards, and architectural and industrial plans.
- 250 ARCHITECTURAL DRAFTING** 3 credits
Prerequisite: 121. Drawing fundamentals, terminology, and symbols for developing a set of basic construction plans and details. Included also are presentation drawings and interior and exterior planning.
- 260 DRAFTING TECHNOLOGY PROJECT** 3 credits
Prerequisite: Completion of 20 credits of 2940. Provides opportunity to research and develop a specific drafting project within chosen field of interest.
- 290 SPECIAL TOPICS: DRAFTING TECHNOLOGY** 1-3 credits
(May be repeated for a total of three credits) Prerequisite: permission. Selected topics on subject areas of interest in drafting technology.

SURVEYING AND CONSTRUCTION TECHNOLOGY

2980:

- 122 BASIC SURVEYING** 3 credits
Basic tools and computations for surveying; measurements of distance, elevations and angles; traverse surveys. Field practice.
- 123 SURVEYING FIELD PRACTICE** 2 credits
Prerequisite: 122. Practical experience in use of surveying equipment and methods of surveying. Provides student with responsibility for making decisions and planning and directing complete project.

- 225 STATICS** 3 credits
Prerequisites: 2820:161 and 2030:153. Forces, resultants and couples. Equilibrium of force systems. Trusses, frames, first and second moment of areas, friction.
- 222 CONSTRUCTION SURVEYING** 3 credits
Prerequisite: 122. Methods and procedures for establishing line and grade for construction. Circular, spiral and parabolic curves. Cross-sectioning methods and earthwork. Field practice.
- 224 LAND SURVEYING** 3 credits
Prerequisite: 122 or permission. Historical development of boundaries, rectangular system of public land surveys, systems to describe property, working and interpretation of deed descriptions, surveyor's rights, duties and responsibilities.
- 225 ADVANCED SURVEYING** 4 credits
Prerequisite: 122. Introduction to theory of errors, precise leveling, baseline measurements, triangulation, trilateration and bearings from celestial observation. Photogrammetry. Field practice.
- 226 SUBDIVISION DESIGN** 2 credits
Prerequisite: 222; corequisite: 224. Site analysis, land use controls and plotting procedures. Laboratory includes preparation of various types of projects leading to a complete subdivision.
- 231 BUILDING CONSTRUCTION** 2 credits
Materials and types of construction used in heavy construction. Encompasses buildings constructed with heavy timber, steel, concrete or a combination of these materials.
- 232 CONSTRUCTION** 3 credits
Prerequisite: 222. Planning of construction operations. Construction equipment and selection for typical jobs. Emphasis on heavy construction.
- 233 CONSTRUCTION ADMINISTRATION** 2 credits
Construction specifications. Office organization, preparation of construction documents. Bidding, bonds. Construction management and supervision. Agreements and contracts.
- 234 ELEMENTS OF STRUCTURES** 3 credits
Prerequisite: 241. Principles of stress and structural analysis, members in steel, timber and concrete types of connections.
- 237 MATERIALS TESTING I** 2 credits
Laboratory testing of soils with emphasis on physical properties of soil. Laboratory and field procedures used for quality control. Testing of concrete mixes.
- 238 MATERIALS TESTING II** 2 credits
Prerequisite: 237; corequisite: 241. Mix design of concrete. Laboratory testing of ferrous and nonferrous metals, woods and concrete. Experiments demonstrate physical properties as related to design.
- 241 STRENGTH OF MATERIALS** 3 credits
Prerequisite: 125. Stress, strain and stress-strain relationships. Tension, compression, torsion, beams. Shear and moment diagrams.
- 245 COST ANALYSIS AND ESTIMATING** 3 credits
Quantity surveys in construction. Elements of cost in construction, determination of unit costs, analysis of cost records.
- 250 STRUCTURAL DRAFTING** 2 credits
Prerequisite: 2940:121. Duties of structural draftsman in preparation of detailed working drawings for steel and concrete. Emphasis on portrayal, dimensions and notes on a working drawing.
- 290 SPECIAL TOPICS: SURVEYING AND CONSTRUCTION TECHNOLOGY** 1-2 credits
Prerequisite: permission. Selected topics or subject areas of interest in surveying and construction technology.

Buchtel College of Arts and Sciences

COOPERATIVE EDUCATION

3000:

- 301 COOPERATIVE EDUCATION** *0 credits*
(May be repeated) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

INTERDISCIPLINARY PROGRAMS

3005:

- 300 CANADIAN STUDIES: AN INTERDISCIPLINARY APPROACH** *3 credits*
This course provides historical, political, geographical, sociological, and literary overviews for students pursuing a certificate in Canadian studies. Team-taught.

BIOLOGY

3100:

- 100 NATURE STUDY: PLANTS** *3 credits*
Identification and biology of common plants of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.
- 101 NATURE STUDY: ANIMALS** *3 credits*
Identification and biology of common animals of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.
- 104 INTRODUCTION TO ECOLOGY LABORATORY** *1 credit*
Corequisite: 105. Short field trips and laboratory studies illustrating natural and modified characteristics of selected local ecosystems.
- 105 INTRODUCTION TO ECOLOGY** *2 credits*
Basic principles governing structure and function of natural ecosystems. Various options for managing natural resources, human populations, biotic communities and industrial technologies at global level emphasized. Not available for credit toward a degree in biology.
- 108 INTRODUCTION TO BIOLOGICAL AGING** *3 credits*
Prerequisite: 1100:221. Survey of normal anatomical and physical changes in aging and associate diseases. (For students in gerontological programs at Wayne College. Not for B.S. biology credit.)
- 111 PRINCIPLES OF BIOLOGY** *4 credits*
Molecular, cellular basis of life; energy transformations, metabolism; nutrient procurement, gas exchange, internal transport, homeostatic mechanisms, control systems in plants and animals. Laboratory.
- 112 PRINCIPLES OF BIOLOGY** *4 credits*
Prerequisite: 111. Cell reproduction, genetics, development, evolution, classification, behavior, ecology of plants and animals. (111-112 are an integrated course for majors in biology and related fields.) Laboratory.
- 130 PRINCIPLES OF MICROBIOLOGY** *3 credits*
Basic principles and terminology of microbiology; cultivation and control of microorganisms; relationships of microorganisms to humans and their environment; medical microbiology. Laboratory.
- 190/191 HEALTH-CARE DELIVERY SYSTEMS*** *1 credit each*
Health-care principles and practices. Restricted to the student in NEUCOM, six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences.
- 206/207 HUMAN ANATOMY AND PHYSIOLOGY** *4 credits each*
Sequential. Structure and function of the human body presented in a self-paced, audio-tutorial format. Laboratory.
- 208,9 HUMAN ANATOMY AND PHYSIOLOGY** *4 credits each*
Sequential. Prerequisite: one year of college chemistry. Study of structure and function of the human body. Laboratory.
- 211 GENERAL GENETICS** *3 credits*
Prerequisite: 112. Principles of heredity, principles of genetics.
- 212 GENETICS LABORATORY** *1 credit*
Prerequisite or corequisite: 211. Fundamental principles of genetics illustrated by experiments with drosophilae and other organisms.
- 217 GENERAL ECOLOGY** *3 credits*
Prerequisite: 112. Study of interrelationships between organisms and environment.
- 264 ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING** *3 credits*
Prerequisite: 265. Study of anatomy and physiology of organs directly and indirectly responsible for sound perception and production of speech. Laboratory.

- 265 INTRODUCTORY HUMAN PHYSIOLOGY** *4 credits*
Study of physiological processes in human body, particularly at organ-systems level. Not open to preprofessional majors. Laboratory.

- 290/291 HEALTH-CARE DELIVERY SYSTEMS*** *1 credit each*
Health-care principles and practices. A continuation of 190,1 for a second year student in NEUCOM six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences. Some field trips.

- 311 CELL BIOLOGY** *3 credits*
Prerequisites: 112 and 3150:202 (organic and biochemistry). Study of structure and function of cells using microbial and animal cells for demonstration of common tenets.

- 315 EVOLUTIONARY BIOLOGY DISCUSSION** *1 credit*
Prerequisite: 211. Informal discussions of various aspects of organic evolution of general or special interest.

- 316 EVOLUTIONARY BIOLOGY** *3 credits*
Prerequisite: 211. History of evolutionary thought; Darwinian and post-Darwinian concepts, mechanisms of evolution; molecular evolution; evolutionary history of plants and animals.

- 331 MICROBIOLOGY** *4 credits*
Prerequisites: 112 and 3150:202 or equivalent. Survey of protists with emphasis on the bacteria; their morphology, cultivation and chemical characteristics. Relationships of microorganisms to humans and their environment. Laboratory.

- 341 FLORA AND TAXONOMY I*** *3 credits*
Prerequisite: 112. Collection-identification of autumn-flowering plants, their family characteristics and discussion of methods used to determine their relationships. Plants used by man discussed and plant collection required. Laboratory.

- 342 FLORA AND TAXONOMY II*** *3 credits*
Prerequisite: 112. Classification systems, international rules governing application of names and collection-identification of spring-flowering plants. Family characteristics. Plant collection. Laboratory.

- 365 HISTOLOGY I** *3 credits*
Prerequisite: 311. Cellular structure of organs in relation to their functional activity, life history, comparative development. Laboratory.

- 366 HISTOLOGY II** *3 credits*
Prerequisite: 365. Microscopic study of animal tissue preparations and histochemical stains; emphasis on functional differences. Laboratory.

- 361 HUMAN GENETICS** *2 credits*
Prerequisite: 112. Principles of genetics in the human, immunogenetics, mutation, genetics of population, selection and eugenics. Not open to biology majors.

- 383 LABORATORY TECHNIQUES AND INSTRUMENTATION IN BIOLOGY** *2 credits*
Prerequisites: 112 and 3150:132,133,134. Instruction in techniques and instrumentation used in biological laboratories.

- 364 TECHNIQUES AND INSTRUMENTATION LABORATORY IN BIOLOGY** *1 credit*
Prerequisite or corequisite: 383. Application of biological techniques and instrumentation with emphasis on isolation and identification of cellular components and metabolites; also includes enzymology, use of radioisotopes and light and electron microscopy.

- 392 BIOLOGY OF AGING** *3 credits*
Prerequisite: 112 or 265 or equivalent. Introduction to anatomical and physiological changes occurring in organ systems of humans during aging process; cellular basis for these changes; biological theories of aging.

- 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.

- 421/521 TROPICAL FIELD BIOLOGY** *4 credits*
Prerequisites: 111/112 or equivalent. Ecology of coral reefs, tide pools, mangroves, intertidal zones, terrestrial flora and fauna, island biogeography. Taught at a field station in the tropics.

- 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 FRESHWATER ECOLOGY*** *3 credits*
Prerequisite: 217. Field, laboratory study of lake ecosystems. Species composition of selected biotic communities, community energetics, nutrient cycling. Limnological survey of a local lake. Laboratory.

- 425/525 FRESHWATER ECOLOGY FIELD AND LABORATORY STUDIES** *3 credits*
Prerequisite: 217 or permission of instructor. Field and laboratory studies of local lakes, ponds, and reservoirs. Collection, identification, and ecology of aquatic plants and animals, especially phytoplankton, zooplankton and benthic organisms.

- 426/526 APPLIED AQUATIC ECOLOGY*** *3 credits*
Prerequisite: permission. Biological methods for assessing quality of natural waterways. Emphasis given to use of benthic invertebrates as indices of water quality. Laboratory.

- 428/528 BIOLOGY OF BEHAVIOR** *2 credits*
Prerequisites: 211, 217 and 316. Biological basis of behavior: ethological theory, function, causation, evolution and adaptiveness of behavior. May be taken without 429/529.

- 429/529 BIOLOGY OF BEHAVIOR LABORATORY** *2 credits*
Prerequisites or corequisites: 428/528 and permission of instructor. Individualized, directed study to provide the student with firsthand experience in observing, describing and interpreting animal behavior.

- 431/531 GENERAL MICROBIAL PHYSIOLOGY** *2 credits*
Prerequisites: 331 or permission. Physiology of microscopic eucaryotes archaebacteria, and eubacteria.

- 432/532 ADVANCED GENERAL BACTERIOLOGY** *4 credits*
Prerequisite: 331. Study of the groups of bacteria involved in the production of food or chemicals, those found in soil and water and those involved in microbial biogeochemical cycles. Laboratory.

- 433/533 PATHOGENIC BACTERIOLOGY** *4 credits*
Prerequisite: 331 and prerequisite or corequisite 437. Study of major groups of bacteria which produce infections in humans. Biochemical properties of microorganisms which engender virulence and nature of host resistance. Laboratory.

*Field trips involved; minor transportation costs.

*Field trips involved; minor transportation costs.

- 435/535 VIROLOGY** 4 credits
Prerequisite: 331. Physical, chemical and biological properties of viruses including mechanisms of infection, genetics and tumor formation; methods of cultivation and identification. Laboratory.
- 437/537 IMMUNOLOGY** 4 credits
Prerequisite: 331; recommended: 433. Nature of antigens, antibody response and antigen-antibody reactions. Site and mechanism of antibody formations, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.
- 440/540 MYCOLOGY** 4 credits
Prerequisite: 112. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to humans. 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 PHYCOLOGY** 4 credits
Prerequisite: 112. Examination of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory.
- 445/545 PLANT MORPHOLOGY*** 4 credits
Prerequisite: 112. Structure, reproduction, life cycles, ecology, evolution, economic significance of land plants-bryophytes, club-mosses, whisk ferns, horsetails, ferns, seed plants. Laboratory.
- 447/547 PLANT PHYSIOLOGY** 3 credits
Prerequisites: 112 and one year of organic chemistry. Water, soil and mineral requirements of plants, and their metabolism, growth and response to internal and external stimuli. Laboratory.
- 448/548 ECONOMIC BOTANY** 2 credits
Prerequisite: 111/112 or instructor's permission. A survey of economically important plants and plant products, excluding food plants. Includes wood and fiber, dyes, drugs, resins, latex and other extractives.
- 450/550 ANIMAL PESTS AND VECTORS** 3 credits
Prerequisite: 217 or permission of instructor. Study of the biology and control of disease vectors and urban pests. Laboratory.
- 451/551 GENERAL ENTOMOLOGY** 4 credits
Prerequisites: 112, 217. Structure, physiology, life cycles, economic importance and characteristics of orders and major families of insects. Laboratories parallel lectures.
- 453/553 INVERTEBRATE ZOOLOGY** 4 credits
Prerequisites: 112, 217. Invertebrate groups, their classification, functional morphology, adaptive radiation and life history. A phylogenetic approach is used. Laboratories parallel lectures.
- 454/554 PARASITOLOGY** 4 credits
Prerequisites: 112, 3150:201. Principles of parasitism; host parasite interactions; important human and veterinary parasitic diseases; and control measures. Laboratories parallel lectures.
- 456/556 ORNITHOLOGY*** 4 credits
Prerequisite: 112. Introduction to biology of birds: classification, anatomy, physiology, behavior, ecology, evolution, natural history and field identification. Laboratory.
- 458/558 VERTEBRATE ZOOLOGY** 4 credits
Prerequisite: 316 or permission. Biology of vertebrates, except birds — evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.
- 461,2/561,2 HUMAN PHYSIOLOGY** 4 credits each
Prerequisite: senior or graduate standing. Detailed study of function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal and endocrine physiology. Laboratory.
- 464/564 GENERAL AND COMPARATIVE PHYSIOLOGY** 4 credits
Prerequisites: 112 and one year of organic chemistry. Study of cellular, osmoregulatory, respiratory, cardiovascular, endocrine and neural mechanisms involved in understanding physiology of variety of invertebrate and vertebrate animals. Laboratory.
- 465/565 ADVANCED CARDIOVASCULAR PHYSIOLOGY** 3 credits
Prerequisite: 462 or 562 or permission. Study of biological mechanisms involved in heart attack, strokes, fluid balance, hypertension and heart disease. Controversial issues in each area will be examined and current research presented.
- 466,7/566,7 DEVELOPMENTAL ANATOMY** 4 credits each
Prerequisite: 112. Sequence designed to introduce process of vertebrate development. Lecture and laboratory work includes descriptive and experimental embryology, phylogenetic development of major vertebrate orders and individual study research. Laboratory.
- 468/568 THE PHYSIOLOGY OF REPRODUCTION** 3 credits
Prerequisite: 462/562 or permission. Study of the physiological mechanisms of reproduction throughout the animal kingdom with special emphasis upon mammalian endocrinological control. Controversial issues in the field will be examined and current research presented.
- 469/569 RESPIRATORY PHYSIOLOGY** 3 credits
Prerequisites: 462/562 or 464/564 or permission. Study of mechanisms determining gas exchange including mechanics, ventilation, blood flow, diffusion, and control systems. Emphasis is given to normal human lung function. (Clinical aspects are not considered in detail.)
- 480/580 RADIATION BIOLOGY*** 3 credits
Prerequisite: permission. Principles of radioactivity, interaction with matter, particularly its effects on biological systems. Detection devices, radiation safety and dosimetry, use of radiolabeled compounds in laboratory. Laboratory.
- 481/581 ADVANCED GENETICS** 3 credits
Prerequisite: 211. Nature of the gene; genetic codes; 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 living 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.
- 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: BIOLOGY** 1-3 credits
(May be repeated) Prerequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists. A maximum of six credits may be applied to requirements for a major.
- 497,8/597,8 BIOLOGICAL PROBLEMS** 1-2 credits each
Prerequisite: permission. Honors-level work, usually consisting of laboratory investigations.
- 499 SENIOR HONORS PROGRAM IN BIOLOGY** 1-3 credits
(May be repeated for a total of five credits) Prerequisites: senior standing in Honors Program and approval of honors preceptor. Open only to biology majors in Honors Program. Independent study leading to completion of approved senior honors.

MEDICAL TECHNOLOGY

3120:

- 401 SPECIAL TOPICS LABORATORY: MANAGEMENT, EDUCATION AND SAFETY** 1-4 credits
Seminars, 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
Prerequisites: 3100:361, 362 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
Prerequisites: 3100:361, 362 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, 384 or equivalent; 3150:201, 202, 335, 336 or equivalent. Concepts of clinical biochemistry; identification and quantification of specific chemical substances in body fluids in normal and disease states; principles of instrumentation and quality control.
- 421 CLINICAL CHEMISTRY AND BIOCHEMISTRY II PRACTICUM** 4 credits
Prerequisites: 3100:383, 384 or equivalent; 3150:201, 202, 335, 336 or equivalent. Clinical application by various analytical techniques; clinical correlation of results with disease states.
- 430 CLINICAL HEMATOLOGY I** 2 credits
Prerequisites: 3100:311 and 3100:361, 362 or equivalent. Theory of blood cell formation; identification of blood and bone marrow cells; differentiation of erythrocytes, leukocytes, morphology.
- 431 CLINICAL HEMATOLOGY II PRACTICUM** 2 credits
Prerequisites: 3100:311 and 3100:361, 362 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, 362 or equivalent. Theory of coagulation mechanisms and their relationship to disease states. Emphasis on identification of coagulation deficiencies and abnormalities.
- 440 CLINICAL IMMUNOHEMATOLOGY I** 2 credits
Prerequisites: 3100:437, 211 or equivalent. Theory of principles of immunology applied to blood grouping, cross matching; blood components; transfusion; blood collection, processing and preservation.
- 441 CLINICAL IMMUNOHEMATOLOGY II PRACTICUM** 2 credits
Prerequisites: 3100:437, 211 or equivalent. Clinical application of theory; cross matching; blood donors; blood bank management.
- 450 CLINICAL IMMUNOLOGY I** 1 credit
Prerequisite: 3100:437 or equivalent. Antigens and antibodies and their interaction in disease states.
- 451 CLINICAL IMMUNOLOGY II PRACTICUM** 1 credit
Prerequisite: 3100:437 or equivalent. Qualitative and quantitative serological laboratory procedures in immunology.
- 460 CLINICAL MICROBIOLOGY I** 4 credits
Prerequisites: 3100:331, 332 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, 332 or equivalent. Isolation and identification of pathogenic bacteria, media making, sensitivity and antimicrobial agents, principles of sterilization and asepsis.
- 462 CLINICAL MYCOLOGY** 1 credit
Study of pathogenic fungi, basic methods of cultivation and identification, treatment and safety precautions.
- 463 CLINICAL PARASITOLOGY** 1 credit
Prerequisite: 3100:355 or equivalent. Study of parasites common to humans, life cycles, and relationship to humans, 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 CYTOPREPARATION** 2 credits
Combined lecture and laboratory of different cytologic techniques, stain preparation, staining procedures, mounting and cover slipping of specimens. Also included are pertinent laboratory measurements, record keeping and safety measures for cytopreparation laboratory.
- 411 GYNECOLOGIC CYTOPATHOLOGY** 5 credits
Anatomy, histology and cellular morphology of female reproductive system. Study of disease, processes and endocrinopathies, inflammation and benign lesions. Stressed are premalignant lesions of cervix and endometrium, as well as malignant neoplasms and their cytologic characteristics. A study of extruterine and metastatic tumors is included.

*Field trips involved; minor transportation costs.

- 412 GENITO-URINARY CYTOPATHOLOGY** 3 credits
Study of anatomy, histology, pertinent physiology and cellular morphology of kidneys, ureters, bladder and lower urinary tract. Emphasis on recognition of cancer cells and various benign pathologic conditions in the urinary tract by microscopic studies of urine sediment.
- 413 RESPIRATORY CYTOPATHOLOGY** 3 credits
Study of disease processes as related to cytology of respiratory tract. Covers general anatomy, normal histology and cytology, inflammatory and mycotic diseases, benign proliferative disorders and malignant neoplasms with emphasis on their associated cell morphology.
- 414 BODY FLUIDS CYTOPATHOLOGY** 4 credits
Anatomy, histology and clinical aspects of benign and malignant diseases involving body cavities, central nervous system and synovial cavities are presented. Emphasis is placed in cellular morphology of primary and metastatic tumors and in different cytodiagnostics.
- 415 CYTOPATHOLOGY OF THE ALIMENTARY TRACT** 3 credits
Anatomy, histology and pertinent physiology of the oral cavity, esophagus, stomach, small and large intestines, rectum and anal canal. The biologic behavior, clinical presentation and cellular morphology of various benign epithelial lesions and malignant tumors emphasized.
- 416 BREAST SECRETION AND NEEDLE ASPIRATION SMEARS** 2 credits
The study of anatomy and histology of body organs subject to needle aspiration biopsy with emphasis on cellular morphology of both benign and malignant tumors.
- 417 CYTOGENETICS** 1 credit
Basic genetic principles are taught to lay foundation for study of chromosomal aberrations and their pathological manifestations. Include techniques of sex chromatin determination, culturing and harvesting of blood cells, preparation of metaphase plate and preparation of karyotypes.
- 418 CYTOLOGY SEMINARS AND RESEARCH** 3 credits
Collections of American Society of Cytology Seminars are presented. Current cytology cases from within department are also utilized. Based on projected slides and pertinent clinical history, a student formulates opinions on each case. Each case presented is discussed in depth by student with faculty moderator. A term paper on an independently selected topic in cytology is to be submitted and presented to the class and faculty.
- 420 CYTOLOGY PRACTICUM** 5 credits
Involves five hours of daily prescreening of routine gynecologic and nongynecologic specimens. Abnormal cases are reviewed with a proctor who is a registered cytotechnologist or pathologist. Correlation of clinical data, follow up of patients and proper reporting is emphasized. The goal is to be able to screen accurately at least 40 cases of gynecologic specimens per day.

CHEMISTRY 3150:

- 121,2 INORGANIC CHEMISTRY I, II** 3 credits each
Sequential. Designed primarily for a student in medical technology. Fundamental laws and theories of chemistry; the more important elements and their 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 carbohydrates, lipids, proteins; biochemistry of enzymes, metabolism, body fluids and radiation effects.
- 132 PRINCIPLES OF CHEMISTRY I** 4 credits
Introduction to basic facts and principles of chemistry including atomic and molecular structure, states of matter and thermodynamics. For chemistry major, pre-medical student and most other science majors. Laboratory. Discussion (day sections).
- 133 PRINCIPLES OF CHEMISTRY II** 3 credits
Prerequisite: 132. Continuation of 132, including aqueous solution theory, chemical kinetics, equilibrium, electrochemistry and nuclear chemistry. For chemistry major, premedical student and most other science majors. Discussion (day sections).
- 134 QUALITATIVE ANALYSIS** 2 credits
Corequisite: 133. Laboratory course applying principles of chemical equilibrium to inorganic qualitative analysis.
- 201,2 ORGANIC CHEMISTRY AND BIOCHEMISTRY I, II** 4 credits each
Sequential. Prerequisite: 122. Designed especially for student in medical technology. Principles of organic chemistry with emphasis on biological systems. Laboratory.
- 203 NUTRITIONAL BIOCHEMISTRY** 3 credits
Prerequisite: 122 or 130. Catabolic processes for energy production and nutritional requirements in liver, heart and skeletal muscle and adipose tissue. Biochemistry of diabetes, heart disease, obesity and atherosclerosis. May not be used to meet undergraduate major requirements in chemistry.
- 263,4 ORGANIC CHEMISTRY LECTURE I, II** 3 credits each
Sequential. Prerequisite: 134 or permission. Structure and reactions of organic compounds, mechanism of reactions.
- 265,6 ORGANIC CHEMISTRY LABORATORY I, II** 2 credits each
Sequential. Corequisites: 263, 264. Laboratory experiments to develop techniques in organic chemistry and illustrate principles.
- 303,4 ELEMENTARY PHYSICAL CHEMISTRY I, II** 3 credits each
Sequential. Prerequisites: 264, 3650:262 or 292, 3450:222 or permission of instructor. Chemical thermodynamics and kinetics (I) and molecular structure and spectra (II). Not accepted for credit toward B.S. degree in chemistry or chemical engineering.
- 313,4 PHYSICAL CHEMISTRY LECTURE I, II** 3 credits each
Sequential. Prerequisites: 264, 3450:235, 3650:292 or permission of instructor. Gases, thermodynamics, thermochemistry, solutions, dilute solutions, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equilibria, atomic and molecular structure.
- 335,6 ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS I, II** 4 credits each
Sequential. Prerequisites: 133, 134 or 122. Intended primarily for preparing to become a laboratory or hospital technician. Theory and calculations in qualitative and quantitative analysis, laboratory, methods used in hospital laboratories.
- 380 ADVANCED CHEMISTRY LABORATORY I** 2 credits
Corequisite: 313 and 423 or permission. Integrated laboratory experience covering the areas of quantitative analysis, physical chemistry, instrumental techniques, and inorganic chemistry.

- 381 ADVANCED CHEMISTRY LABORATORY II** 2 credits
Prerequisite 380; corequisite: 314 and 424 or permission. Integrated laboratory experience covering the areas of quantitative analysis, physical chemistry, instrumental techniques, and inorganic chemistry.
- 401/501 BIOCHEMISTRY LECTURE I** 3 credits
Prerequisite: 264. Biochemistry of amino acids, carbohydrates, lipids, and nucleic acids: structure/function relations. Enzymes as catalysts. kinetics and regulation. Cofactors.
- 402/502 BIOCHEMISTRY LECTURE II** 3 credits
Prerequisite: 401/501. Overview of metabolism; thermodynamics; carbohydrate, fatty acid, amino acid, and nucleoside anabolism and catabolism; hormonal control of metabolism. Photosynthesis.
- 405/505 BIOCHEMISTRY LABORATORY** 2 credits
Prerequisite: 401/501. Methods for separation and analysis of amino acids, proteins, carbohydrates, lipids, and nucleic acids and their metabolism. Chromatography, electrophoresis, centrifugation, spectrophotometry and use of radioisotopes.
- 408/508 THE PROFESSIONAL CHEMIST IN INDUSTRY** 2 credits
Prerequisite: senior year or degree in chemistry or chemical engineering or permission. Business, legal, societal, economic and other nonchemical aspects of a chemist's profession.
- 411/511 PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS** 3 credits
Prerequisites: 266 and 3450:148 and permission. Gases, thermodynamics, electrochemistry, chemical kinetics, macromolecules and colloids; special topics in biochemistry, biophysics and molecular biology.
- 421/521 QUALITATIVE ORGANIC ANALYSIS** 4 credits
Prerequisite: 266. Identification and characterization of organic substances, separation and identification of components of organic mixtures. Laboratory.
- 423 ANALYTICAL CHEMISTRY I** 3 credits
Prerequisite: 264 or permission. Theoretical principles of quantitative and instrumental analysis.
- 424 ANALYTICAL CHEMISTRY II** 3 credits
Prerequisite 313 and 423 or permission. Instrumental analysis with emphasis on newer analytical tools and methods.
- 463 ADVANCED ORGANIC CHEMISTRY** 3 credits
Prerequisites: 264, 304 or 314 or permission. Introduction to study of mechanisms of organic reactions.
- 472/572 ADVANCED INORGANIC CHEMISTRY** 3 credits
Prerequisite: 304 or 314. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.
- 480 ADVANCED CHEMISTRY LABORATORY III** 2 credits
Prerequisite 381; corequisite 472 or permission. Integrated laboratory experience covering the areas of quantitative analysis, physical chemistry, instrumental techniques, and inorganic chemistry.
- 481 ADVANCED CHEMISTRY LABORATORY IV** 2 credits
Prerequisite 480 and 472 or permission. Integrated laboratory experience covering the areas of quantitative analysis, physical chemistry, instrumental techniques, and inorganic chemistry.
- 490/590 WORKSHOP IN CHEMISTRY** 1-3 credits
(May be repeated) Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.
- 497 HONORS PROJECT IN CHEMISTRY** 2 credits
(May be repeated for a total of eight credits) Prerequisites: junior or senior standing in Honors Program and permission of department honors preceptor. Independent research leading to completion of honors thesis under guidance of honors project adviser.
- 498 SPECIAL TOPICS: CHEMISTRY** 1-3 credits
- 499 RESEARCH PROBLEMS** 2 credits
(May be repeated for a total of eight credits) Prerequisite: permission. Assignment of special problems to student, designed as an introduction to research problems.

CLASSICS 3200:

- 189 MYTHOLOGY OF ANCIENT GREECE** 3 credits
Myth, legend and folklore in ancient Greece, with some attention to religion (Olympian deities, Orphism, etc.) and the transmission of Greek myth to Rome and the West. No foreign language necessary.
- 190 THE MAKING OF ENGLISH WORDS FROM LATIN AND GREEK ELEMENTS** 3 credits
The influence of Latin and Greek on English vocabulary with some attention to the use of these languages in the scientific and legal fields. No foreign language is necessary.
- 313 ARCHAEOLOGY OF GREECE** 3 credits
The ruins and monuments of Greece; history reconstructed by examination of the material remains. No foreign language necessary. Required of majors.
- 314 ARCHAEOLOGY OF ROME** 3 credits
The ruins and monuments of Rome; history reconstructed by examination of the material remains. No foreign language necessary. Required of majors.
- 361 THE LITERATURE OF GREECE** 3 credits
Major writers of ancient Greece and their influence on later European literature. No foreign language necessary. Required of majors.
- 362 THE LITERATURE OF ROME** 3 credits
Major writers of ancient Rome and their influence on later European literature. No foreign language necessary. Required of majors.
- 401,2/501,2 EGYPTOLOGY I AND II** 3 credits each
The history and antiquities of ancient Egypt.
- 404,5/504,5 ASSYRIOLOGY** 3 credits each
(May be repeated for credit with another cuneiform language) Prerequisite: permission of instructor. The Akkadian language.
- 407,8/507,8 ANCIENT NEAR EASTERN ARCHAEOLOGY** 3 credits each
(May be repeated for credit with change of subject) Prerequisite: permission of instructor. Palestine, Mesopotamia, Asia Minor, adjacent lands; Old Testament in light of material evidence.

- 450/550 SELECTED TOPICS IN ANCIENT CULTURES** 3 credits
(May be repeated with change of subject) Varied offerings in literature, art and archaeology and religion. No foreign language necessary.
- 490/590 WORKSHOP IN CLASSICS** 1-3 credits
(May be repeated with change in topic). Group studies of special topics in Classics. Cannot be used to fulfill undergraduate major requirements in Classics; for elective credit only.
- 497,8/597,8 READING AND RESEARCH IN THE ANCIENT NEAR EAST** 1-3 credits
Prerequisite: permission of instructor. Advanced work in various aspects of Ancient Near Eastern Studies (Archaeology, Assyriology, Egyptology, etc.).
- 499 HONORS PROJECT IN CLASSICS** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: 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.

GREEK

3210:

- 121,2 BEGINNING GREEK I AND II** 4 credits each
Sequential. Standard Attic Greek of classical times.
- 223,4 INTERMEDIATE GREEK** 3 credits each
Prerequisites: 121, 122. A survey of readings of the less difficult authors such as Homer, certain dialogues of Plato, Herodotus, Xenophon, New Testament or the like.
- 303,4 ADVANCED GREEK** 3 credits each
(May be repeated with a change of subject) Tragedy, comedy, philosophy, history, lyric poetry, prose composition or epigraphy.
- 497,8/597,8 GREEK READING AND RESEARCH** 3 credits each
(May be repeated for credit with change of subject) Prerequisite: permission of instructor. Homer, Sophocles, Plato or the like.

LATIN

3220:

- 121,2 BEGINNING LATIN I AND II** 4 credits each
Sequential. Reading, writing and translation; oral and written drill; analysis of grammatical structure and English vocabulary building.
- 223,4 INTERMEDIATE LATIN** 3 credits each
Prerequisites: 121, 122. A survey of readings of the less difficult authors such as Pliny, Caesar, Plautus, Cicero's Letters or equivalent material.
- 303,4 ADVANCED LATIN** 3 credits each
(May be repeated for credit with change of subject) Prerequisites: 223, 224 or equivalent. Satirists, dramatists, philosophical, religious writers, lyric and elegiac poets, medieval writers.
- 497,8/597,8 LATIN READING AND RESEARCH** 3 credits each
(May be repeated for credit with change of subject) Prerequisite: permission of instructor. Generally Latin epigraphy, prose composition or philology; numismatics or certain other archaeological topics may be offered.

ECONOMICS

3250:

- 100 INTRODUCTION TO ECONOMICS** 3 credits
May not be substituted for 201, 202, 244. Economics primarily considered in a broad social science context. Adequate amount of basic theory introduced. Cannot be used to satisfy major or minor requirements in economics.
- 201 PRINCIPLES OF MACROECONOMICS** 3 credits
Study of the economic factors which affect the price level, national income, employment, economic growth. No credit if 244 already taken.
- 202 PRINCIPLES OF MICROECONOMICS** 3 credits
Analysis of decision making on the part of the firm and household, and the market processes affecting price, output and resource allocation. No credit if 244 already taken.
- 244 INTRODUCTION TO ECONOMIC ANALYSIS** 3 credits
For engineering majors. Intensive introduction to analysis of modern industrial society and formulation of economic policy. Structure of economic theory and its relation to economic reality. No credit to a student who has completed 201, 202.
- 248 CONSUMER ECONOMICS** 3 credits
Spending habits of American consumers; influences affecting their spending decisions, personal finance, budget planning, saving programs, installment buying, insurance, investments, housing finance.
- 330 LABOR PROBLEMS** 3 credits
Prerequisites: 201, 202. Labor economics, principles and public policy. Study of structure of labor market and impact unions have on labor management relations.
- 333 LABOR ECONOMICS** 3 credits
Prerequisite: 202. Theoretical tools used in analysis of problems of labor in any modern economic system. Emphasis given to examination of determinants of demand for and supply of labor.
- 360 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY** 3 credits
Prerequisites: 201, 202. Role of industrial structure and firm conduct in performance of industry and way in which antitrust policy is designed to provide remedies where performance is unsatisfactory.
- 380 MONEY AND BANKING** 3 credits
Prerequisite: 201. Institutions of money, banking and credit, monetary expansion and contraction, public policies affecting this process, development of our money and banking system.
- 385 ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT** 3 credits
Prerequisites: 100, 202, 244 or permission. Introduction to economic analysis of use of natural resources and economics of environment. Problems of water and air pollution, natural environments, natural resource scarcity, conservation, economic growth.
- 389 ECONOMICS OF ENERGY** 3 credits
Prerequisites: 201, 202 or permission of the instructor. Frame of economic theory is applied to analyze the energy sector. Theoretical issues relating energy with inflation, economic growth and public policy will also be examined.

- 400 MACROECONOMICS** 3 credits
Prerequisites: 201 and 3450:145 or equivalent. Changes in national income, production, employment, price levels, long-range economic growth, short-term fluctuations of economic activity.
- 405 ECONOMICS OF THE PUBLIC SECTOR** 3 credits
Prerequisites: 201, 202. Considers nature and scope of government activity, rationale for government intervention, problems of public choice, taxation and revenue-raising, cost-benefit analysis, program development and evaluation.
- 406/506 STATE AND LOCAL PUBLIC FINANCE** 3 credits
Prerequisite: 410; recommended: 405. Examines economic rationale and problems for provision of goods and services by different governmental units. Considers alternative revenue sources and special topics.
- 410 MICROECONOMICS** 3 credits
Prerequisites: 202 and 3450:145 or equivalent. Advanced analysis of consumer demand, production costs, market structures, determinants of factor income.
- 420 MATHEMATICAL ECONOMICS I** 3 credits
Prerequisites: 202 and 3450:215 or permission of instructor. Mathematical treatment of economic theory in framework of comparative statics. Emphasis on theory of the firm, theory of consumer behavior, general equilibrium analysis and welfare analysis.
- 421 MATHEMATICAL ECONOMICS II** 3 credits
Prerequisite: 420 or permission of instructor. Use of calculus and linear algebra to dynamic economic analysis; solution techniques; some significant dynamic models from literature.
- 426 ECONOMETRIC METHODS AND APPLICATIONS** 3 credits
Prerequisites: 3470:460 or 3470:461 or the equivalent or 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.
- 427/527 ECONOMIC FORECASTING** 3 credits
Prerequisite: 3470:460,461 or permission of instructor. Study of methods for building, identifying, fitting and checking dynamic economic models and the use of these models for forecasting. Emphasis is on the application of available computer software systems.
- 430/530 LABOR MARKET POLICY** 3 credits
Prerequisites: 330 or 333. Intensive study of current labor market policy issues (e.g., discrimination, poverty, the changing industrial structure, and the economics of education).
- 431 LABOR AND THE GOVERNMENT** 3 credits
Prerequisite: 330. Development of public policy for control of industrial relations, from judicial control of 19th Century to statutory and administrative controls of World War II and postwar periods.
- 432 THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING** 3 credits
Prerequisite: 202. Principles and organization of collective bargaining, collective bargaining agreements, issues presented in labor disputes and settlements, union status and security, wage scales, technological change, production standards, etc.
- 435/535 THE DEVELOPMENT OF AMERICAN CORPORATE STRUCTURE** 3 credits
Traces evolution of American corporate structure from late 19th Century to present. Explains and analyzes changing dimensions of corporate structure and response of government. Case studies analyzed.
- 440/540 SPECIAL TOPICS: ECONOMICS** 3 credits
Prerequisite: permission. Opportunity to study special topics and current issues in economics.
- 450/550 COMPARATIVE ECONOMIC SYSTEMS** 3 credits
Prerequisites: 201, 202 or permission of instructor. Systems of economic organization, ranging from the theoretical extreme of a perfectly free market economy to the socialist varieties. Historical evolution of economic systems covering problems in theory and practice.
- 460/560 ECONOMIC DEVELOPMENT AND PLANNING FOR UNDERDEVELOPED COUNTRIES** 3 credits
Prerequisites: 201, 202. Basic problems in economic development. Theories of development. Government planning for development. Trade and development of underdeveloped countries. No credit for graduate majors in economics.
- 461 PRINCIPLES OF INTERNATIONAL ECONOMICS** 3 credits
Prerequisites: 201, 202. International trade and foreign exchange, policies of free and controlled trade, international monetary problems.
- 475/575 DEVELOPMENT OF ECONOMIC THOUGHT** 3 credits
Prerequisites: 201, 202. Evolution of theory and method, relation of ideas of economists contemporary to conditions.
- 481/581 MONETARY AND BANKING POLICY** 3 credits
Prerequisites: 380, 400. Control over currency and credit, policies of control by central banks and governments, United States Treasury and Federal Reserve System.
- 487 URBAN ECONOMICS: THEORY AND POLICY** 3 credits
Prerequisite: 410. Theoretical and empirical analyses of allocation, growth and structure in urban economy. Urban problems. Special attention given to resource allocation in urban public sector.
- 490 INDEPENDENT STUDY IN ECONOMICS** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Independent study in economics under supervision and evaluation of selected faculty member.
- 491/591 WORKSHOP IN ECONOMICS** 1-3 credits
(May be repeated) Group studies of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit only.
- 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 on a creative project relevant to economics, approved and supervised by faculty member of the department.

ENGLISH

3300:

- 275 SPECIALIZED WRITING** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. (May be repeated for different topics, with permission) Principles and practice of style, structure and purpose in writing, with special applications to writing demands of a specific career area.

- 277 INTRODUCTION TO POETRY WRITING** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Practice in writing poems. Study of techniques in poetry, using contemporary poems as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.
- 278 INTRODUCTION TO FICTION WRITING** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Practice in writing short stories. Study of various techniques in fiction, using contemporary stories as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.
- 279 INTRODUCTION TO SCRIPT WRITING** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Practice in writing scripts. Study of various techniques in script writing, using contemporary models for study. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.
- 280 POETRY APPRECIATION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Close reading of a wide selection of British and American poems with emphasis on dramatic situation, description, tone, analogical language, theme and meaning.
- 281 FICTION APPRECIATION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Close reading of modern masters of short story and novel.
- 282 DRAMA APPRECIATION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. (May be repeated for credit as a text or a film appreciation course) Close reading and analysis of a variety of plays.
- 283 FILM APPRECIATION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Introduction to dramatic choices made by filmmakers in scripting, directing, editing and photographing narrative films; and qualities of reliable film reviews.
- 301 ENGLISH LITERATURE I** 4 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Studies in English literature from 1800 to present. Emphasis will be given to cultural and intellectual backgrounds and to the development of various modes and genres.
- 315 SHAKESPEARE: THE EARLY PLAYS** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Introduction to early drama 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.
- 341 AMERICAN LITERATURE I** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Historical survey of major and minor American writers to 1865.
- 342 AMERICAN LITERATURE II** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Readings in major and minor American writers from 1865 to present.
- 350 BLACK AMERICAN LITERATURE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Survey of representative black American writers from the 19th Century to present, with particular attention to historical and social backgrounds.
- 354 FICTION OF THE SOUTH** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. A study of novels and short stories by major Southern authors such as Faulkner, O'Connor and Styron.
- 360 THE OLD TESTAMENT AS LITERATURE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. History 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. These two bodies of literature read with emphasis on form of gospel and epistle, and concept of apocalypse. Both are viewed against their historical and social backgrounds.
- 366 EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Representative continental texts from Homer to Cervantes, selected both for their excellence and for their important influence on English and American literature.
- 371 INTRODUCTION TO LINGUISTICS** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Broad range of topics on language and introduction to its scientific study. Topics include language origins and history, dialects, sound systems, syntax, semantics, animal language, writing systems and language universals.
- 376 LEGAL WRITING** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Intensive practice in writing for prelaw students through assignments based on actual legal situations and real cases. Particular attention to stating legal issues, writing persuasively, applying rules of law, and other topics that will help those preparing for law school and the profession.
- 377 ADVANCED POETRY WRITING** 3 credits
Prerequisites: 277, and 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Advanced practice in writing poems, emphasis on shaping publishable works. Survey of market. Class discussion of student poems; individual conference with instructor.
- 378 ADVANCED FICTION WRITING** 3 credits
Prerequisites: 278, and 1100:111 and 1100:112 or their equivalents, or permission of the instructor. 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Application of literary critical theory to the study of film.
- 386 WOMEN IN MODERN NOVELS** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Students will read various modern novels to increase their awareness of how these texts reflect, reinforce, but more often challenge traditional attitudes towards women, their places and circumstances.
- 389 SPECIAL TOPICS: LITERATURE AND LANGUAGE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. (May be repeated for credit as different topics are offered). Traditional and nontraditional topics in English literature and language, supplementing course listed in this *General Bulletin*, generally constructed around theme, genre and language study.
- 390 PROFESSIONAL WRITING I** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Designed to help prepare student for a career as professional business writer. Stresses theory and practice of written and oral communication in business organization. Individual and group performance, relating to communication theories, concepts of semantics. Functional writing as well as special needs of business are illustrated by actual cases. Adapting style and organization is practiced.
- 391 PROFESSIONAL WRITING II** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Designed to help prepare student for a career as a professional technical writer. Covers principles and practices concerning editing company technical communications, such as specifications, annual reports, promotional brochures for technical products, services, scientific abstracts, proposals. Also treats problems of adapting materials to formats, graphic display of technical information, adaptation of technical material to nontechnical reader.
- 399 THE GOTHIC IMAGINATION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. A loosely chronological study of major British, American, and European authors in the Gothic tradition, from the 18th Century to the present. Attention will be paid to the literary conventions of Gothic fiction, to the "popular" nature of the literature and to its major themes/motifs.
- 400/500 ANGLO SAXON** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Studies in Old English language and Old English prose and poetry, including Beowulf.
- 403/503 DEVELOPMENT OF THE ARTHURIAN LEGEND** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Traces evolution of Arthurian materials from 540 to 1500 and beyond, with emphasis on characters, themes, events and treatments.
- 406/506 CHAUCER** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Close study of Chaucer's major works — *The Canterbury Tales* and *Troilus and Criseyde* in Middle English.
- 407/507 MIDDLE ENGLISH LITERATURE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of genres, topics, styles and writers of the Middle English literary works from 12th to 15th Centuries. Readings in Middle English.
- 412/512 SPENSER** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Close reading of major narrative and lyric poems and selections from the minor works, all studied in the context of Elizabethan aesthetic theory, learning and politics.
- 416/516 METAPHYSICAL POETS** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Selected 17th-Century British poets exclusive of John Donne. The course examines the particular styles and themes of the secular and sacred poets who wrote in the metaphysical mode. Particular emphasis is placed on Herbert, Crashaw, Vaughan, Traherne, Marvell, Cowley, Cleveland, Southwell and King.
- 418/518 MILTON** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. An intensive study of the major satires of Swift and Pope. Concentration on the rhetorical strategies of each author within the context of the shifting intellectual and cultural milieu at the end of the 17th and beginning of the 18th Centuries.
- 424/524 EARLY ENGLISH FICTION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Development of English novel before 1830. Focus on works of Defoe, Richardson, Fielding, Smollett, Sterne, Austen and Scott.
- 425/525 STUDIES IN ROMANTICISM** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Literary, philosophical, psychological and social revolutions of romantic period as reflected in works of such major writers as Wordsworth, Byron and Keats.
- 430/530 VICTORIAN POETRY AND PROSE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Poetry, prose of the late 19th Century, excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin and other major writers.
- 431/531 VICTORIAN FICTION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Reading of at least five major novels of Victorian era, of varying length, by Emily Bronte, Dickens, Eliot, Thackeray and Hardy. Characterization, theme and attitude toward life emphasized.
- 434/534 CHARLES DICKENS** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Growth of Dickens as a novelist, with attention to the social and political backgrounds of the novels and changes in their structure and treatment of character.
- 435/535 20TH CENTURY BRITISH POETRY** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Concentrated study of major poems of Yeats, Eliot and Auden, with attention also to Hardy, Housman, Spender, C. Day Lewis, Dylan Thomas and others.
- 436/536 BRITISH FICTION: 1900-1925** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. 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 important fiction writers of the period, including Wells, Bennett and Mansfield.

- 437/537 BRITISH FICTION SINCE 1925** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of important British novelists since 1925, excluding Lawrence, Joyce and Woolf. Attention to development of British short story from 1925 to present.
- 439/539 MODERN BRITISH AND IRISH DRAMA** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of major British dramatists, principally those of post-World War II. Focal figures are Shaw, Galsworthy, O'Casey, Osborne, Arden and Pinter.
- 443/543 MELVILLE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. A study of Herman Melville's life and works. Primary emphasis will be on Melville's major fiction (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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. An inquiry into the nature of autobiographical writing, with particular attention to the ontology 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examination of early American fiction, tracing its genesis, romantic period and germinal movements toward realism. Writers discussed include Cooper, Poe, Hawthorne and Melville.
- 449/549 AMERICAN FICTION: REALISM AND NATURALISM** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examination of American writers of realistic and naturalistic fiction (e.g., Howells, James, Crane, Dreiser), tracing developments in American fiction against background of cultural and historical change.
- 450/550 MODERN AMERICAN FICTION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of significant American short and long fiction from World War I to the present.
- 451/551 AMERICAN POETRY TO 1900** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Survey of American poetry of the 17th, 18th and 19th Centuries.
- 452/552 MODERN AMERICAN POETRY** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Survey of 20th Century American poetry beginning with Edwin Arlington Robinson and ending with contemporary poets.
- 453/553 AMERICAN WOMEN POETS** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of modern poets' uses and revisions of tradition, treatment of relationships between women and men and between women, conceptions of art and of the artist-as-woman, and confrontation of the debate between "public" and "private" poetry.
- 454/554 20TH CENTURY AMERICAN DRAMA** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. 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
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. A study of the development of the short story as a particularly American genre, from Washington Irving to the present.
- 458/558 FAULKNER** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. An in-depth study of William Faulkner's major novels and short stories, primarily those set in the imaginary Yoknapatawpha region.
- 467/567 MODERN EUROPEAN FICTION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Representative European writers from about 1850 to present, in translation. Focus on fiction of such writers as Zola, Tolstoy, Dostoyevsky, Mann, Proust, Kafka and Solzhenitsyn.
- 469/569 EROS AND LOVE IN EARLY WESTERN LITERATURE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. An analysis of the use of sex and love in the literature of the Western World from Greco-Roman times to 1800, with special emphasis on how sexuality and "romantic" love are used as allegorical, satiric, fantastic or realistic devices.
- 470/570 HISTORY OF ENGLISH LANGUAGE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Development of English language, from its beginnings: sources of its vocabulary, its sounds, its rules; semantic change; political and social influences on changes; dialect origins; correctness.
- 471/571 U.S. DIALECTS: BLACK AND WHITE** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of differences in pronunciation, vocabulary and grammar among U.S. language varieties. Origins, regional and social dimensions are explored. Correctness, focusing on black English and Appalachian speech, explored.
- 472/572 SYNTAX** 3 credits
Prerequisites: 371, and 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Principles of syntactic description. Sentence structures are investigated from a variety of languages, with emphasis on English.
- 473/573 SEMINAR IN TEACHING ESL: THEORY AND METHOD** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Theoretical issues in linguistic description and language acquisition as relevant to learning of a second language. Elaboration of principles for the teaching of English as a second language based on research in linguistics, psycholinguistics and second language pedagogy.
- 475/575 THEORY OF RHETORIC** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Ancient and modern theories of rhetoric, with attention to classical oration, "topics" of rhetoric and their application to teaching of English.
- 476/576 THEORY AND TEACHING OF BASIC COMPOSITION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Review of current research and exploration of specific instructional methods for teaching basic composition.
- 482 SENIOR HONORS PROJECT IN ENGLISH** 1-3 credits
(May be repeated for a total of six credits). Prerequisites: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor; senior standing in Honors Program and approval of honors preceptor; open only to English majors enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

- 483/583 FANTASY AND SCIENCE FICTION** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Selected British and American fantasy and science fiction from the 1880s to the present.
- 484/584 FANTASY** 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. A study of forms of literature, primarily fiction, based on and controlled by an overt violation of what is generally considered as possibility.
- 489/589 SEMINAR IN ENGLISH** 2-3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. (May be repeated with different topics.) Special studies, and methods of literary research, in selected areas of English and American literature and language.
- 490/590 WORKSHOP IN ENGLISH** 1-3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. (May be repeated with different topics) Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only.
- 498 INDEPENDENT STUDY** 1-3 credits
Prerequisite: completion of 1100:111 and 1100:112 or their equivalents. Directed study in a special field of interest chosen by student in consultation with instructor.

GEOGRAPHY

3350:

- 100 INTRODUCTION TO GEOGRAPHY** 3 credits
Analysis of world patterns of population characteristics, economic activities, settlement features, landforms, climate as interrelated.
- 310 PHYSICAL AND ENVIRONMENTAL GEOGRAPHY** 3 credits
Landforms, weather and climate, soils and vegetation and natural hazards. Nature and distribution of these environmental elements and their significance to society. Laboratory.
- 314 CLIMATOLOGY** 3 credits
Prerequisite: 310 or permission. Analysis and classification of climates, with emphasis on regional distribution. Basic techniques in handling climate data.
- 320 ECONOMIC GEOGRAPHY** 3 credits
Geographical basis for production, exchange, consumption of goods. Effect of economic patterns on 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 rationale of settlements. Includes analysis of rural settlement landscape as well as fundamentals of urban geography.
- 335 RECREATION RESOURCE PLANNING** 3 credits
Prerequisite: 330 or permission. Effect of physical and economic environment on recreational patterns. Case studies of important recreational activities and areas in which tourism contributes significantly to the area economy.
- 340 CARTOGRAPHY** 3 credits
Use of graphic/cartographic principles and techniques as a means of presenting information.
- 341 MAPS AND MAP READING** 3 credits
Interpretation and use of various map materials. Study of basic map elements, symbolism and methods of creating maps. Historical aspects associated with these developments also considered. Laboratory.
- 350 GEOGRAPHY OF THE UNITED STATES AND CANADA** 3 credits
Prerequisite: 100 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: 100 or permission. Analysis of relationship of cultural and economic patterns to physical environment 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 Africa 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.
- 385 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.
- 397 SPECIAL PROBLEMS** 1-3 credits
(May be repeated for a total of five credits) Prerequisite: permission of instructor. Directed reading and research in special field of interest.
- 405/505 GEOGRAPHIC INFORMATION SYSTEMS** 3 credits
Prerequisites: six credits of advanced geography courses at the 300 level or above, but not including regional courses; 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.

- 428/528 INDUSTRIAL AND COMMERCIAL SITE LOCATION** 3 credits
Prerequisite: 320 or permission. Relationship between land, resources, population, transportation and industrial and commercial location process.
- 433/533 URBAN, REGIONAL AND RESOURCE PLANNING** 3 credits
Prerequisite: 330 or permission. Role of geographic investigation in city, regional and resource planning.
- 436/536 URBAN LAND USE ANALYSIS** 3 credits
Prerequisite: 330 or permission. Land use classification systems and their spatial variation in urban areas. Land use data are collected by student by field work and analyzed to identify the associations and structure of 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 THEMATIC 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 COMPILATION AND REPRODUCTION** 3 credits
Prerequisite: 341 or permission. Production of new/improved maps from existing maps, aerial photographs, surveys, new data and other sources. Includes special cartographic considerations for photography, lithography and printing.
- 447/547 INTRODUCTION TO REMOTE SENSING** 3 credits
Prerequisite: 341 or permission. Study of aerial photography and non-photographic imagery developed by radar, thermal, multispectral and satellite scanners. Emphasis on use in geographical, geological, biological and engineering research.
- 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 specialized interests of student.
- 449/549 ADVANCED REMOTE SENSING** 3 credits
Prerequisite: 447/547 or permission. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies.
- 450/550 DEVELOPMENT PLANNING IN THE THIRD WORLD** 3 credits
A study of planning concepts and techniques for developing countries, including growth and development, planning agencies, regional inequities and alternative approaches.
- 471/571 MEDICAL GEOGRAPHY AND HEALTH PLANNING** 3 credits
Spatial analysis of diseases; their socioeconomic correlates; diffusion pattern of infectious diseases with particular reference to North America; health-planning processes and spatial analysis of health-care delivery systems.
- 481/581 GEOGRAPHIC RESEARCH METHODS** 3 credits
Prerequisites: 12 credits in geography. Techniques in geographic research. Library resources, techniques of professional writing.
- 483/583 SPATIAL ANALYSIS** 3 credits
Prerequisite: 481/581 or permission. Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.
- 489/589 SPECIAL TOPICS IN GEOGRAPHY** 1-2 credits
(May be repeated) Selected topics of interest in geography.
- 490/590 WORKSHOP IN GEOGRAPHY** 1-3 credits
(May 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: 310 or permission. Properties, origins and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.
- 496/596 FIELD RESEARCH METHODS** 3 credits
Prerequisite: 481/581 or permission. Field work enabling student to become competent in collecting, organizing and analysis of data while carrying out field research projects.
- 498 HONORS RESEARCH IN GEOGRAPHY** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of department honors preceptor, 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.
- 428/528 INDUSTRIAL AND COMMERCIAL SITE LOCATION** 3 credits
Prerequisite: 320 or permission. Relationship between land, resources, population, transportation and industrial and commercial location process.
- 433/533 URBAN, REGIONAL AND RESOURCE PLANNING** 3 credits
Prerequisite: 330 or permission. Role of geographic investigation in city, regional and resource planning.
- 436/536 URBAN LAND USE ANALYSIS** 3 credits
Prerequisite: 330 or permission. Land use classification systems and their spatial variation in urban areas. Land use data are collected by student by field work and analyzed to identify the associations and structure of 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 THEMATIC 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 COMPILATION AND REPRODUCTION** 3 credits
Prerequisite: 341 or permission. Production of new/improved maps from existing maps, aerial photographs, surveys, new data and other sources. Includes special cartographic considerations for photography, lithography and printing.
- 447/547 INTRODUCTION TO REMOTE SENSING** 3 credits
Prerequisite: 341 or permission. Study of aerial photography and non-photographic imagery developed by radar, thermal, multispectral and satellite scanners. Emphasis on use in geographical, geological, biological and engineering research.
- 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 specialized interests of student.

- 449/549 ADVANCED REMOTE SENSING** 3 credits
Prerequisite: 447/547 or permission. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies.
- 450/550 DEVELOPMENT PLANNING IN THE THIRD WORLD** 3 credits
A study of planning concepts and techniques for developing countries, including growth and development, planning agencies, regional inequities and alternative approaches.
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- 481/581 GEOGRAPHIC RESEARCH METHODS** 3 credits
Prerequisites: 12 credits in geography. Techniques in geographic research. Library resources, techniques of professional writing.
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Prerequisite: 481/581 or permission. Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.
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(May be repeated) Selected topics of interest in geography.
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(May 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: 310 or permission. Properties, origins and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.
- 496/596 FIELD RESEARCH METHODS** 3 credits
Prerequisite: 481/581 or permission. Field work enabling student to become competent in collecting, organizing and analysis of data while carrying out field research projects.
- 498 HONORS RESEARCH IN GEOGRAPHY** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of department honors preceptor, 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.

GEOLOGY

3370:

- 100 EARTH SCIENCE** 3 credits
Introduction to earth science for non-science majors. Survey of earth in relation to its physical composition, structure, history, atmosphere, oceans; and relation to solar system and universe.
- 101 INTRODUCTORY PHYSICAL GEOLOGY** 4 credits
Comprehensive survey of minerals, rocks, structures and geologic processes of solid earth. Laboratory.
- 102 INTRODUCTORY HISTORICAL GEOLOGY** 4 credits
Prerequisite: 101. Geologic history of earth, succession of major groups of plants and animals interpreted from rocks, fossils. Laboratory.
- 200 ENVIRONMENTAL GEOLOGY** 3 credits
Analysis of geologic aspects of the human environment with emphasis on geologic hazards and environmental impact of society's demand for water, minerals and energy.
- 201 EXERCISES IN ENVIRONMENTAL GEOLOGY** 1 credit
Prerequisite or corequisite: 200. Recognition, evaluation of environmental problems related to geology through field, laboratory exercises and demonstrations which apply concepts from 200.
- 202 GEOLOGY OF THE NATIONAL PARKS** 3 credits
Prerequisite: 1100, 223, or 100 or 101. Geologic setting of major national parks, interpreted in terms of geological principles and processes which shaped them in past and/or currently affect them, including the rock cycle, evolution of landscapes and plate tectonics.
- 210 GEOMORPHOLOGY** 3 credits
Prerequisite: 101. Landforms of the earth. Emphasis on origins, geologic processes and distributions. Laboratory.
- 230 CRYSTALLOGRAPHY AND NON-SILICATE MINERALOGY** 3 credits
Morphological crystallography and crystal chemistry of minerals, followed by physical and chemical properties, crystal structure, occurrence and uses of the common non-silicate minerals. Laboratory.
- 231 SILICATE MINERALOGY AND PETROLOGY** 3 credits
Physical and chemical properties, crystal structure, occurrence, and uses of common silicate minerals, followed by megascopic identification, classification, and petrogenesis. Laboratory.
- 271 OCEANOGRAPHY** 3 credits
Prerequisite: 101. Introduction to physical processes, geologic history and development of marine areas.
- 301 ENGINEERING GEOLOGY** 3 credits
Prerequisites: Minimum of 4 credits in chemistry, 4 credits in physics, 4 credits in calculus, and 4 credits in introductory physical geology or permission. Presents quantitative analyses of geologic features and processes and is supported by the study of case histories. Lecture, lab, and field study.
- 324 SEDIMENTATION AND STRATIGRAPHY** 3 credits
Prerequisites: 102 and 231. Introduction to processes and environments of sedimentation and stratigraphic principles employed in examination of sedimentary strata. Hand specimens and sequences of sedimentary strata studied. Laboratory.
- 350 STRUCTURAL GEOLOGY** 4 credits
Prerequisite: 101 or permission. Origins and characteristics of folds, faults, joints and rock cleavage. Structural features of sedimentary, igneous and metamorphic rocks. Laboratory.
- 360 INTRODUCTORY VERTEBRATE PALEONTOLOGY** 4 credits
Prerequisite: 102 or permission. Introductory course emphasizing morphology and evolution of major invertebrate groups with consideration of practical applications of paleontology. Laboratory.
- 395 FIELD METHODS IN GEOLOGY** 2 credits
Prerequisites: 101 and 102 or permission. Use of geologic field equipment including Brunton compasses, alidades and plane tables, stereoscopes and aerial photographs.

- 404/504 ASTROGEOLOGY** 3 credits
Prerequisites: 3450:222, 3650:292 or permission. Relations of planet earth to the solar system and universe. Analysis and implications of data from lunar and space probes.
- 410/510 REGIONAL GEOLOGY OF NORTH AMERICA** 3 credits
Prerequisites: 101, 102, 210 or permission; recommended: 350. Examination of physiographic provinces of North America emphasizing structure, tectonic setting, stratigraphy and processes responsible for landforms in each province. Laboratory.
- 411/511 GLACIAL GEOLOGY** 3 credits
Prerequisite: 210 or permission. Causes and effects of Pleistocene expansion of polar ice masses with emphasis on glacial deposits and world climatic changes.
- 421/521 COASTAL GEOLOGY** 3 credits
Prerequisites: 101, 324 or permission of instructor. Study of the origins and evolution of coasts and coastal deposits with particular attention paid to the interaction of waves and currents with sediment, and the development of associated sedimentary features.
- 425/525 ADVANCED STRATIGRAPHY** 3 credits
Prerequisites or corequisites: 360, 324 or permission. Emphasis on correlation, depositional systems, sedimentation and tectonics, seismic stratigraphy, and terrain analysis. Laboratory in the field.
- 432/532 OPTICAL AND X-RAY METHODS** 3 credits
Prerequisites: 230 and 231. Techniques for the study of minerals and rocks using the petrographic microscope and x-ray diffraction equipment. Laboratory.
- 433/533 PETROGRAPHY** 3 credits
Prerequisite: 432/532. Origin and petrogenesis of igneous, metamorphic and sedimentary rocks as determined by microscopic studies of textures and mineral assemblages in thin section. Laboratory.
- 435/535 PETROLEUM GEOLOGY** 3 credits
Prerequisite: 350 or permission; recommended: 324. Natural occurrences of petroleum. Characteristics, origin, entrapment and exploration methods. Laboratory.
- 436/536 COAL GEOLOGY** 3 credits
Prerequisites: 101, 102, recommended: 324. Origin, composition and occurrence of coal with emphasis on depositional environments, coalification processes, exploration, evaluation and exploitation. Laboratory.
- 437/537 ECONOMIC GEOLOGY** 3 credits
Prerequisites: 231 and 350. Study of metallic and nonmetallic mineral deposits emphasizing paragenesis and exploration. Laboratory.
- 441/541 FUNDAMENTALS OF GEOPHYSICS** 3 credits
Prerequisites: 3450:223 or permission and 3650:292. Fundamental concepts in solid earth geophysics, planetary physics, geodesy, and geomagnetism. Contributions of geophysics to recent major developments in geoscience.
- 446/546 EXPLORATION GEOPHYSICS** 3 credits
Prerequisites: 3450:223, 3650:292 or permission. Basic principles and techniques of geophysical exploration with emphasis on gravimetric, magnetic, seismic and electrical methods and application to geological problems. Laboratory.
- 450/550 ADVANCED STRUCTURAL GEOLOGY** 3 credits
Prerequisite: 350 or permission. Fundamental and advanced concepts of structural geology with emphasis on current and developing concepts. Laboratory.
- 463/563 MICROPALAEONTOLOGY** 3 credits
Prerequisite: 360 or permission. Introduction to techniques of micropaleontology evolution and paleoecology of selected microfossil groups. Laboratory.
- 470/570 GEOCHEMISTRY** 3 credits
Prerequisites: minimum of 12 credits in chemistry and geology or permission. Chemical systems of the earth, both open and closed, with emphasis on groundwater and mineral-water relationships. Laboratory.
- 474/574 GROUNDWATER HYDROLOGY** 3 credits
Prerequisite: 101. Origin, occurrence, regimen and utilization of groundwater. Qualitative and quantitative presentation of geological and geochemical aspects of groundwater hydrology. Laboratory.
- 490/590 WORKSHOP** 1-3 credits
(May be repeated) Group studies of special topics in geology. May not be used to meet undergraduate or graduate major requirements in geology. May be used for elective credit only.
- 495 FIELD STUDIES IN GEOLOGICAL STRUCTURES AND PROCESSES** 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 pre-trip preparation and post-trip examination. Student will bear trip expenses.
- 496/596 GEOLOGY FIELD CAMP** 6 credits
Prerequisites: 350 and permission; recommended: 231, 324, 395. Emphasis on collection, recording and interpretation of field data; detailed structural and stratigraphic field study.
- 497 SENIOR HONORS PROJECT IN GEOLOGY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program, permission of department honors preceptor and major in geology or natural science. Independent research leading to completion of senior honors thesis or other original work under guidance of student's honors project adviser.
- 498 SPECIAL TOPICS** 1-3 credits
Prerequisite: permission of instructor. Special lecture courses offered once or only occasionally in areas where no formal course exists.
- 499 RESEARCH PROBLEMS** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor.
- 207 EUROPE: RENAISSANCE THROUGH THE 18TH CENTURY** 4 credits
Survey from Renaissance, Reformation; development of nation states, religious wars, Age of Louis XIV and Enlightenment.
- 208 EUROPE: 19TH AND 20TH CENTURIES** 4 credits
Survey of European history from French Revolution and Napoleon; 19th Century "isms," formation of Germany and Italy, the two world wars, totalitarian dictatorship and postwar age.
- 220 BLACK PEOPLE OF THE UNITED STATES** 3 credits
Survey of social, economic, political and cultural history of Afro-Americans from 17th Century to present.
- 232 EVOLUTION OF AMERICAN BUSINESS** 3 credits
An examination of the development of the American business system from the Colonial era to the present.
- 300 IMPERIAL CHINA** 3 credits
Selective study of institutional, intellectual, political and artistic developments in Chinese civilization from antiquity to 18th Century. Emphasis on general features of traditional Chinese culture.
- 301 REVOLUTIONARY CHINA** 3 credits
Survey of China since 18th Century with focus on process of modernization. Background of contemporary scene stressed.
- 303 JAPAN** 3 credits
Survey of history of Japan from 1600 to present. Emphasis on modernization and the rise of Japanese empire, 1894-1945.
- 304 THE ANCIENT NEAR EAST** 3 credits
Mesopotamia, Egypt; Israel, and neighbors to Persian Empire.
- 305 GREECE** 3 credits
Minoans and Mycenaeans; classical Greece to triumph of Macedon.
- 306 ROME** 3 credits
Rome and Hellenistic East to end of classical times.
- 307 THE EASTERN ROMAN EMPIRE (324-1453)** 3 credits
Byzantine culture and history from 324 to the fall of 1453.
- 335 SPORTS IN AMERICAN HISTORY SINCE 1865** 3 credits
An examination of the reciprocal relationship between sports and various institutions of society: culture, religion, politics, education, economics, race, ethnicity, diplomacy and gender.
- 336 WOMEN IN MODERN EUROPE** 3 credits
A survey of the history of women in Europe since 1500, with emphasis on their roles and the changes attendant on modernization.
- 337 THE WEST IN THE DEVELOPMENT OF THE UNITED STATES** 3 credits
Examination of westward movement from Revolution to closing of frontier; types of frontiers; impact of the West on nation's development.
- 338 WOMEN IN THE UNITED STATES** 3 credits
Changing roles, status, self-images and activities of women in context of American social, economic, political and intellectual movements.
- 339 AMERICAN IMMIGRATION** 3 credits
Examination of European migrants to American colonies and United States, their reasons for leaving Europe and coming to America, and their experience after arrival.
- 340 PEACE AND WAR: THE HISTORICAL PERSPECTIVE** 3 credits
Historical examination of theories of war and peace, including study of leaders, groups and ideas for peace.
- 341 SOVIET AND UNITED STATES WOMEN IN THE 20TH 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.
- 350 SELECTED TOPICS IN HISTORY** 3 credits
Includes experimental offerings such as those crossing subject of chronological lines, and subjects not listed in this *General Bulletin*. See departmental office for current subject.
- 360 THE VIETNAM WAR** 3 credits
An examination and evaluation of all aspects of the war in Vietnam, political, military, diplomatic and economic, including its impact domestically then and later.
- 397 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.
- 400/500 WOMEN IN REVOLUTIONARY CHINA, 1800-1990** 3 credits
Prerequisites: 3400:300, 301 or 1100:330, or permission of instructor. A study of the changes in women's lives in China during the late imperial (1644-1911) and socialist (1949-1989) periods.
- 401 HONORS SEMINAR** 3 credits
Prerequisite: permission of department head or instructor. Selected readings; writing of research paper. For student seeking to graduate with honors in history and for student in Honors Program.
- 402/502 SPECIAL STUDIES IN HISTORY** 3 credits
Includes experimental and interdisciplinary studies, as well as those subjects that are not listed in this *General Bulletin*. See departmental office for information on particular offerings.
- 403/503 UNITED STATES SOCIAL-CULTURAL HISTORY TO 1877** 3 credits
Concepts and attitudes considered in their social, cultural framework. Emphasis on population growth, rural and urban life, literature, the arts, family life, slavery and impact of Civil War.
- 404/504 UNITED STATES SOCIAL-CULTURAL HISTORY SINCE 1877** 3 credits
Concepts and attitudes; emphasis on business, agrarianism; self-made individuals; progressivism; impact of world wars; social-economic planning; trends in literature and art; social structure and change; black Americans; women's movements.
- 405/505 HISTORICAL METHODS** 3 credits
Practice in historical research and writing. Required for history major, and for graduate major who has not taken equivalent course elsewhere but does not count for graduate credit requirements.
- 408/508 THE AMERICAN REVOLUTIONARY ERA: POLITICAL, MILITARY, AND CONSTITUTIONAL ASPECTS** 3 credits
The struggle for the rights of Englishmen and independence; the impact of war on American society and the creation of republican institutions.
- 407/507 UNITED STATES DIPLOMACY TO 1919** 3 credits
Establishment of basic policies, diplomacy of expansion and emergence of a world power.
- 408/508 UNITED STATES DIPLOMACY SINCE 1914** 3 credits
Responses of government and public to challenges of war, peace making and power politics.

HISTORY

3400:

- 201 UNITED STATES HISTORY TO 1877** 4 credits
Historical survey from the Age of Discovery and North American colonization through the creation of the United States to the Civil War and Reconstruction.
- 202 UNITED STATES HISTORY SINCE 1877** 4 credits
Survey of United States history from the end of Federal Reconstruction to the present.

- 410/510 HISTORICAL AGENCY ADMINISTRATION** 3 credits
Organization and administration of non-academic historical agencies (e.g. societies, museums, libraries, etc.). Some field experience in a local historical agency.
- 411/511 FUNCTIONS OF HISTORICAL AGENCIES** 3 credits
Prerequisite: 410/510 or permission. The functions and programs of historical agencies. Student will develop a project that involves participating in an agency function.
- 413 BLACK SOCIAL AND INTELLECTUAL HISTORY** 3 credits
Examination of black thought and activities reflective of Afro-American culture, conditions facing black people within America and efforts toward coordinated black activity.
- 414/514 HISTORY OF CANADA** 3 credits
Survey of Canadian history from the age of the explorers to the present. Special emphasis will be placed on the history of French-Canadians, on economic development and on Canadian-American relations.
- 415/515 LATIN AMERICA: ORIGINS OF NATIONALITY** 3 credits
Pre-Columbian civilizations, discovery and conquests; colonialism, struggle for independence and formation of new societies.
- 416/516 LATIN AMERICA: THE 20TH CENTURY** 3 credits
Social revolution, political ideology and contemporary problems.
- 417/517 THE UNITED STATES, LATIN AMERICA AND IMPERIALISM** 3 credits
Inter-American relations, militarism, dependency, Marxism and recent international and ideological trends.
- 418/518 MEXICO** 3 credits
History of Mexico from Indian civilizations to present with emphasis on relations with United States; social and political ramifications of the 20th Century Mexican revolution.
- 419/519 CENTRAL AMERICA AND THE CARIBBEAN** 3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on populist and peasant movements, political reform, social revolution, economic and underdevelopment, and relations with the United States.
- 421/521 THE AMERICAN COLONIES IN THE 17TH CENTURY, 1607-1713** 3 credits
Establishment of European colonies in America with special emphasis on English settlements and evolution of the first British Empire to 1713.
- 422/522 THE 18TH CENTURY COLONIES AND FOUNDING OF THE UNITED STATES, 1713-1800** 3 credits
Colonial life from the Glorious Revolution to the founding of the United States. Major movements (wars, religious revivals, economic growth) and political controversies.
- 424/524 AGE OF JEFFERSON AND JACKSON, 1800-1850** 3 credits
The evolution of the republic in its formative stages from Jefferson through Jackson to the Compromise of 1850. Emphasis upon political, social, intellectual and Constitutional developments.
- 425/525 THE CIVIL WAR AND RECONSTRUCTION, 1850-1877** 4 credits
Sectionalism, slavery and the causes of the Civil War; wartime activities of the Union and Confederacy; leading personalities; problems of reconstruction and the new Union.
- 428/528 THE ORIGINS OF MODERN AMERICA, 1877-1917** 3 credits
United States from Reconstruction Era to World War I (1877-1920); emphasis on political responses to rise of an industrialized-urbanized society, the populist and progressive movements.
- 429/529 AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945** 3 credits
World War I and Versailles; the 1920s, the Great Depression and the New Deal; World War II.
- 430/530 RECENT AMERICA: THE UNITED STATES SINCE WORLD WAR II** 3 credits
Nuclear age, cold war, foreign policy and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.
- 431/531 HISTORY OF AMERICAN TRANSPORTATION** 3 credits
A survey of development of major transportation forms, water, road, rail and air. Special emphasis on technological change, social and economics trends, and government support and control.
- 432/532 AMERICAN ECONOMY TO 1900** 3 credits
Survey of economic developments from colonial era; including agriculture, commerce, labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.
- 433/533 AMERICAN ECONOMY SINCE 1900** 3 credits
Survey of economic developments since 1900; topics include agriculture, business and labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.
- 434/534 AMERICAN ENVIRONMENTAL HISTORY** 3 credits
Utilization, conservation of natural resources from beginnings of American society to present; combination of economic, technological history of extensive treatment of public policy, environmental issues.
- 435/535 OHIO** 3 credits
Political, social, economic and intellectual history of Ohio, with special emphasis on Ohio's relationship to Old Northwest and to the nation.
- 436/536 THE AMERICAN CITY** 3 credits
Development of urbanization and its consequences from colonial period to present.
- 437/537 AMERICAN FAMILY HISTORY** 3 credits
Evolution of American family, colonial times to present, including developments in structure and roles of family members, and status of the aged. Exploration of methods for historical study of the family.
- 438/538 BRONZE AGE AND ARCHAIC GREECE (3000-480 BC)** 3 credits
An intensive survey of the history of Greece from the Neolithic period to the Persian Wars. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.
- 439/539 CLASSICAL AND HELLENISTIC GREECE (480-146 BC)** 3 credits
Prerequisite: 438/538. An intensive survey of the history of Greece from 480 B.C. to the Hellenistic Age. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.
- 440/540 THE ROMAN REPUBLIC** 3 credits
An intensive survey of the Roman Republic. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.
- 441/541 THE ROMAN EMPIRE** 3 credits
Prerequisite: 440/540. An intensive survey of the Roman Empire. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.
- 442/542 MEDIEVAL EUROPE, 400-1200** 3 credits
Migration of peoples, Carolingian revival, renewed invasions; social, economic and intellectual stirrings leading to "birth of Europe."
- 443/543 MEDIEVAL EUROPE, 1200-1500** 3 credits
Middle Ages and the middle class; economic and political change, international wars, social unrest and religious crosscurrents.
- 445/545 THE RENAISSANCE** 3 credits
The age of transition from the Middle Ages to modern times (1350-1600). Special emphasis on intellectual trends, the development of humanism, and the fine arts.
- 446/546 THE REFORMATION** 3 credits
Europe in 16th Century; its religious, cultural, political and diplomatic development, with special emphasis on Protestant, Anglican and Catholic reformations.
- 447/547 EUROPEAN ABSOLUTISM AND THE ENLIGHTENMENT, 1648-1789** 3 credits
Constitutional, diplomatic, cultural, intellectual and social developments of 17th Century Europe.
- 448/548 EUROPE IN THE FRENCH REVOLUTIONARY ERA, 1789-1815** 3 credits
Development of Revolution; Napoleon's regime and satellites.
- 451/551 19TH CENTURY EUROPE, 1815-1871** 3 credits
Europe in the century of change; revolution, romanticism, industrialization, democratization, first wars of the Industrial Age.
- 452/552 19TH CENTURY EUROPE, 1871-1914** 3 credits
Socialism, imperialism, nationalism and the great war. The *belle époque* and contemporary artistic and intellectual currents.
- 454/554 20TH CENTURY EUROPE, 1914-1939** 3 credits
Europe between world wars; Russian revolution, fascism and national socialism; plight of democracies.
- 455/555 20TH CENTURY EUROPE SINCE 1939** 3 credits
Europe in World War II, the cold war and attempts at unity.
- 458/558 RUSSIA TO 1801** 3 credits
Survey of Russian history from Kievan period to death of Paul I, emphasizing development of autocratic government, Russian culture, reigns of Peter and Catherine.
- 459/559 RUSSIA SINCE 1801** 3 credits
Survey of 19th and 20th Centuries. Special emphasis on problems of modernization, the revolution and development of communism.
- 460/560 WAR AND WESTERN CIVILIZATION** 3 credits
War and society in Europe, America and beyond from ancient world to present with special emphasis on period since 1740.
- 470/570 ENGLAND TO 1688** 3 credits
Survey of English history from the Anglo-Saxon conquest to the Revolution of 1688. Medieval and early modern institutions, social and cultural life.
- 471/571 ENGLAND SINCE 1688** 3 credits
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.
- 472/572 TUDOR AND STUART ENGLAND, 1485-1714** 3 credits
Emphasis on social, economic and cultural topics, including literature, art and architecture.
- 477/577 WESTERN SCIENCE TO 1800** 3 credits
Science in Greek, Roman, Islamic, European societies with special emphasis on the scientific revolution of the 16th and 17th Centuries.
- 478/578 WESTERN SCIENCE SINCE 1800** 3 credits
Continuing development of physical, medical, biological sciences in European and American societies. Atomic physics and weapons, evolution, genetics, modern medicine.
- 479/579 WESTERN TECHNOLOGY** 3 credits
Technology in Mesopotamia, Egypt, Greece, Rome, Islam, medieval Europe; first and second industrial revolutions in Europe, America.
- 482/582 IMPERIALISM IN EAST ASIA IN THE 19TH AND 20TH CENTURIES** 3 credits
An examination of the East Asian relations in the modern period, highlighting China's response to British, Russian, and Japanese imperialism in the 19th and 20th centuries.
- 487/587 MODERN INDIA** 3 credits
History of the Indian subcontinent from c.1500 with emphasis on Indian society and culture, British imperialism, and the emergence of Indian nationalism.
- 490/590 WORKSHOP IN HISTORY** 1-3 credits
(May be repeated) Group studies of special subjects pertaining to history. May be used for elective credit only. May not be used to meet undergraduate or graduate major requirements in history.
- 497 HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. An individual research project relevant to history, supervised by a member of the Department of History, culminating in an undergraduate thesis.

MATHEMATICS

3450:

- 100 PREPARATORY MATHEMATICS** 3 credits
Prerequisite: Placement. A review of high school algebra: real numbers, exponents and radicals, factoring, linear and quadratic equations, graphing, systems of equations, and problem solving. For students whose algebraic skills are not sufficient to allow them to enroll in University mathematical science courses. Does not meet General Studies mathematics requirement.
- 113-38 MODERN UNIVERSITY MATHEMATICS** 1 credit each
A series of modules designed primarily for the non-physical science major to be taken after consultation with an adviser.
- 113 COMBINATORICS AND PROBABILITY** 1 credit
Prerequisite: 100 or placement test. Permutations, combinations, sample spaces, events; simple, compound and conditional probability; Bernoulli trials, expectations and odds.
- 114 MATRICES** 1 credit
Prerequisite: 100 or placement test. Nomenclature, operations, inverse, solution of m linear equations in n variables using elementary row operations.
- 115 LINEAR PROGRAMMING** 1 credit
Prerequisite: 114 or equivalent. Minimizing and/or maximizing a linear function subject to a system of linear inequalities (geometrically and simplex method); introduction to game theory.

- 121 ANALYTIC GEOMETRY** 1 credit
Prerequisite: 100 or placement test. Cartesian coordinate system; rational, logarithmic, exponential functions; sequences, series, limits, definition of series.
- 127 TRIGONOMETRY** 2 credits
Prerequisite: Mathematics Placement Test. A standard right triangle approach to trigonometry, including trigonometric and inverse trigonometric functions and graphing, identities, equations, triangle solutions, complex numbers.
- 131 NUMBER SYSTEMS** 1 credit
Prerequisite: 100 or placement test. Ancient number systems, number bases, Euclidean algorithm, modular arithmetic.
- 132 ELEMENTARY GEOMETRY** 1 credit
Prerequisite: 100 or placement test. Definitions and measure of line segments, angles and triangles in Euclidean plane geometry; Hilbert's axioms.
- 138 MATHEMATICS OF FINANCE** 1 credit
Prerequisite: 100 or placement test. Simple and compound interest; bank discount, ordinary annuities (present value, amount and rate), amortization, annuities, perpetuities.
- 145 COLLEGE ALGEBRA** 4 credits
Prerequisite: placement. Real numbers, equations and inequalities, linear and quadratic functions. Exponential and logarithmic functions. Systems of equations, matrices, determinants. Permutations and combinations.
- 149 PRECALCULUS MATHEMATICS** 4 credits
Prerequisite: 145 or placement. Functions, polynomial functions, complex numbers, exponential and logarithmic functions, systems of equations, trigonometric functions, mathematical inductions, sequences, and binomial theorem.
- 208 INTRODUCTION TO DISCRETE MATHEMATICS** 4 credits
Prerequisites: 145 or 149 or placement. A foundation course in discrete mathematics with applications. Topics include sets, number systems, Boolean Algebra, logic, relations, functions, recursion, matrices, induction, graphs, and trees.
- 211 CALCULUS FOR THE LIFE SCIENCES I** 3 credits
Prerequisite: 149 or equivalent or placement. A calculus course for students majoring in the biological and health sciences. Functions, limits and continuity, differentiation, applications of derivatives, exponential and logarithmic functions, integration.
- 212 CALCULUS FOR THE LIFE SCIENCES II** 3 credits
Prerequisite: 211. A calculus course for students majoring in the biological and health sciences. Trigonometric functions, applications of derivatives of differentiation and integration, differential and difference equations, functions of several variables, infinite series, vectors and matrices.
- 215 CONCEPTS OF CALCULUS I** 4 credits
Prerequisite: 145 or 149 or placement. Functions; limits and continuity; differentiation and applications of differentiation; trigonometric, logarithmic, and exponential functions; integration and applications of integration; math of finance.
- 216 CONCEPTS OF CALCULUS II** 4 credits
Prerequisite: 215. Trigonometric functions, calculus of trigonometric functions, integration techniques L'Hopital's Rule, improper integrals, multiple integrals, mathematical induction, difference equations, series.
- 221 ANALYTIC GEOMETRY-CALCULUS I** 4 credits
Prerequisite: 149 or equivalent or placement. Real numbers, analytic geometry, limits, continuity, derivatives of algebraic functions, tangent and normal lines, extrema of functions, Rolle's theorem, mean value theorem, related rates, antiderivatives, definite integrals, areas, volumes, arc length.
- 222 ANALYTIC GEOMETRY-CALCULUS II** 4 credits
Prerequisite: 221. Derivatives of exponential, logarithmic trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions; methods of integration, sequences, series; moments, centroids, indeterminate forms, polar coordinates.
- 223 ANALYTIC GEOMETRY-CALCULUS III** 4 credits
Prerequisite: 222. Vector algebra, cylindrical, spherical coordinates, vector-valued functions, curvature; functions of several variables, limit, continuity, partial derivatives, differentials, directional derivatives, maxima and minima multiplier integrals, Divergence Theorem.
- 235 DIFFERENTIAL EQUATIONS** 3 credits
Prerequisite: 223 or permission of instructor. Methods of forming and solving important types of differential equations. Analysis of models involving differential equations of first order and simple equations of second order.
- 289 SELECTED TOPICS IN MATHEMATICS** 1-3 credits
Prerequisite: permission. Selected topics of interest in mathematics.
- 301 HISTORY OF MATHEMATICS** 2 credits
Prerequisite: 222. Origin and development of mathematical ideas.
- 307 FUNDAMENTALS OF ADVANCED MATHEMATICS** 3 credits
Prerequisite: 222. Logic, solving problems, and doing proofs in mathematics. Sets, extended set operations, and indexed family sets, induction. Binary relations. Functions, cardinality. Introductory concepts of algebra and analysis.
- 312 LINEAR ALGEBRA** 3 credits
Prerequisite: 223 or permission of instructor. Study of vector spaces, linear transformations, matrices, determinants, inner products, the eigenvalue problem, quadratic forms and canonical forms.
- 335 INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS** 3 credits
Prerequisite: 223 or equivalent. Basic techniques for solving ODES, an introduction to theoretical topics including existence and uniqueness of solutions, linear systems, stability of solutions, and phase plane analysis.
- 410/510 ADVANCED LINEAR ALGEBRA** 3 credits
Prerequisite: 312. Study of vector spaces, linear transformation, canonical and quadratic forms, inner product spaces.
- 411/511 ABSTRACT ALGEBRA I** 3 credits
Prerequisite: 307 or permission of instructor. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.
- 412/512 ABSTRACT ALGEBRA II** 3 credits
Prerequisite: 411/511 or permission of instructor. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.
- 413/513 THEORY OF NUMBERS** 3 credits
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 ANALYSIS** 3 credits
Prerequisite: 223. Vector algebra, calculus of scalar-vector, vector-scalar, vector-vector functions; integral theorems; orthogonal and general curvilinear. Application of geometry and engineering.
- 415/515 COMBINATORICS AND GRAPH THEORY** 3 credits
Prerequisite: 222 or permission. Introduction to basic ideas and techniques of mathematical counting; properties of structure of systems.
- 421,2/521,2 ADVANCED CALCULUS I AND II** 3 credits each
Sequential. Prerequisite: 223; 307 is highly recommended. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.
- 425/525 COMPLEX VARIABLES** 3 credits
Prerequisite: 223. Complex variables; elementary functions, differentiation and analytic functions; integration and Cauchy's theorem; power series and Laurent series; residue theorem; applications such as conformal mappings, inversion of integral transform.
- 427/527 INTRODUCTION TO NUMERICAL ANALYSIS** 3 credits
Prerequisites: 223 and 3460:201 or 330 or knowledge of FORTRAN. Mathematical analysis of numerical methods for solving equations, interpolating function values, approximating derivatives and integrals, approximating functions.
- 428/528 NUMERICAL LINEAR ALGEBRA** 3 credits
Prerequisites: 223 and 3460:201 or 330 or knowledge of FORTRAN. Mathematical analysis of numerical methods for solving systems of linear equations, eigen value problems, nonlinear systems, linear least square problems.
- 429/529 NUMERICAL SOLUTIONS FOR ORDINARY DIFFERENTIAL EQUATIONS** 3 credits
Prerequisite: 427/527. Mathematical analysis of numerical methods for solving ordinary differential equations. Runge-Kutta and linear multistep methods for initial value problems. Shooting, collocation and difference methods for boundary value problems.
- 430/530 NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS** 3 credits
Prerequisite: 428/528 or equivalent. For advanced undergraduate and graduate students. The study of finite difference and finite element methods for partial differential equations — consistency, stability, convergence and computer implementation.
- 431/531 SPECIAL FUNCTIONS AND OPERATIONAL CALCULUS** 3 credits
Prerequisite: 235 or 335. Series solutions to differential equations; Bessel functions; orthogonal polynomials; self-adjoint boundary value problems and Fourier series; Laplace transforms; Fourier transforms.
- 432/532 PARTIAL DIFFERENTIAL EQUATIONS** 4 credits
Prerequisite: 235 or 335. The classical initial value and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.
- 435/535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS** 3 credits
Prerequisites: 235 or 335 and either 312 or 428 or permission. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.
- 438/536 MATHEMATICAL MODELS** 3 credits
Prerequisite: 235 or 335, and a six-hour sequence in an approved applied area, or permission. Formulation and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.
- 438/538 ADVANCED ENGINEERING MATHEMATICS I** 3 credits
Prerequisite: 235 or 335. Linear algebra, vector analysis, Laplace transforms, systems of differential equations, related numerical methods — applied to typical engineering problems. Does not satisfy elective requirements for mathematical sciences degree.
- 439/539 ADVANCED ENGINEERING MATHEMATICS II** 3 credits
Prerequisites: 438/538 or both 235 or 335 and 312. Complex analysis, series solutions to differential equations, special functions, Fourier series transforms, partial differential equations — applied to engineering problems. Does not satisfy elective requirements for mathematical sciences degree.
- 441/541 CONCEPTS IN GEOMETRY** 4 credits
Prerequisite: 222 or permission of instructor; 307 is recommended. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.
- 442/542 PROJECTIVE GEOMETRY** 3 credits
Prerequisite: 222 or permission. Complex projective planes, duality, homogeneous coordinates, 1-1 correspondence, cross ratios, harmonic ranges, conics, quadrilaterals, quadrangles, applications to Euclidean geometry, quadric surfaces.
- 445/545 INTRODUCTION TO TOPOLOGY** 3 credits
Prerequisite: 307 or permission of instructor. Introduction to topological spaces and topologies, mappings, cardinality, homeomorphisms, connected spaces, metric spaces.
- 489/589 TOPICS IN MATHEMATICS** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.
- 491/591 WORKSHOP IN MATHEMATICS** 1-3 credits
(May be repeated) Group studies of special topics in mathematics and statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.
- 497 INDIVIDUAL READING** 1-2 credits
Prerequisites: senior standing and permission. Mathematics majors only. Directed studies designed as an introduction to research problems, under guidance of selected faculty member.
- 498 SENIOR HONORS PROJECT** 1-3 credits
Prerequisite: 489 (honors). Directed study for senior student in the Honors Program who has completed 489 (honors). An introduction to research problems in mathematical sciences under the guidance of selected faculty.

COMPUTER SCIENCE

3460:

- 125 DESCRIPTIVE COMPUTER SCIENCE** 2 credits
Computer literacy; terminology; methods, media for data representation, storage; elements of a computing system; data organization.
- 126 INTRODUCTION TO BASIC PROGRAMMING** 2 credits
Prerequisite: 3450:100 or placement. Introduction to syntax and semantics of BASIC language: assignment statement and arithmetic, control statements and loops, input/output.

- 127 COMPUTERS IN TODAY'S WORLD** 3 credits
Introduction to nature of computers and their capabilities. Special attention given to topics such as effects of computer on privacy, employment and education; ethics in computer community; potential for computer crime. Designed for non-majors.
- 128 ADVANCED BASIC PROGRAMMING** 1 credit
Prerequisite: 126 or equivalent. A continuation of 126 to include such topics as arrays, files, graphics, simulations, subroutines, top-down programming, control structures and applications. Hands-on experience in the Apple Lab will be scheduled.
- 201-7 INTRODUCTION TO PROGRAMMING LANGUAGES** 2 credits each
Introduction to syntax and semantics of programming languages; assignment statement and arithmetic, control statements and loops, input/output, subprograms.
- 201 INTRODUCTION TO FORTRAN PROGRAMMING** 2 credits
Prerequisites: 3450:114 or 147 or equivalent. Does not meet computer science major, minor and/or certificate requirements.
- 202 INTRODUCTION TO COBOL PROGRAMMING** 2 credits
Prerequisites: 3450:114 or equivalent. Does not meet computer science major, minor and/or certificate requirements.
- 203 INTRODUCTION TO APL PROGRAMMING** 2 credits
Prerequisites: 3450:114 or equivalent.
- 204 INTRODUCTION TO PL/1 PROGRAMMING** 2 credits
Prerequisites: programming experience and 3450:114 or 147 or equivalent.
- 205 INTRODUCTION TO PASCAL PROGRAMMING** 2 credits
Prerequisites: programming experience and 3450:114 or 147 or equivalent. Does not meet computer science major, minor and/or certificate requirements.
- 208 INTRODUCTION TO C PROGRAMMING** 2 credits
Prerequisites: programming experience and 3450:114 or 147. Provides the student with additional programming skills allowing access to assembly or high-level macros.
- 207 INTRODUCTION TO SAS PROGRAMMING** 2 credits
Prerequisites: programming experience and 3450:114 or 147 or equivalent. Programming in the SAS language including SAS procedures to information storage and retrieval, data modification and programming, report writing and file handling.
- 209 INTRODUCTION TO COMPUTER SCIENCE** 3 credits
Prerequisite: 3450:145, 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 SCIENCE II** 3 credits
Prerequisites: 209 and 3450:221 or 3450:215. Dynamic memory allocation methods, elementary data structures, internal representations, and associated algorithms. Topics include lists, stacks, queues, trees, and sorting methods.
- 289 SELECTED TOPICS IN COMPUTER SCIENCE** 1-3 credits
Prerequisite: permission. Selected topics of interest in computer science.
- 302 PROGRAMMING APPLICATIONS WITH COBOL** 3 credits
Prerequisite: 210. Applications of COBOL, JCL and file manipulation; intended to introduce business data processing techniques to the business option computer science major. Does not meet major requirements for mathematics option computer science students.
- 306 ASSEMBLY LANGUAGE PROGRAMMING** 3 credits
Prerequisite: 210. Basic computer organization and data representation. Programming in assembly language on a typical digital computer. Subroutine linkage and macro instructions.
- 307 APPLIED SYSTEMS PROGRAMMING** 3 credits
Prerequisite: 306. Design and implementation of assemblers, linkers, loaders and macro processors. Introduction to compilers.
- 316 INTRODUCTION TO DATA STRUCTURES** 3 credits
Prerequisites: 210 and 3450:221 or 3450:215. A continuation of topics in 210. Topics include: graphs and graph algorithms, external sorting, hashing, advanced tree and file structures.
- 330 SURVEY OF PROGRAMMING LANGUAGES** 3 credits
Prerequisite: 210 or programming experience in a high-level block-structured procedural programming language. An introduction to programming in C, Fortran, and LISP for experienced programmers. Not to be used to satisfy minor or certificate requirements in the Department of Mathematical Sciences.
- 418/518 INTRODUCTION TO DISCRETE STRUCTURES** 3 credits
Prerequisite: 210 or permission. Introduction to a number of structures in algebra of particular use to student in computer science. Topics include algorithms and flow chart language, graphs and digraphs, trees, lattices codes.
- 420/520 STRUCTURED PROGRAMMING** 3 credits
Prerequisite: 316 and 418. Techniques of block programming using a structured programming language, program readability, program verification and program design.
- 428/528 OPERATING SYSTEMS** 3 credits
Prerequisites: 307, 316 (and 330 or knowledge of C). Introduction to various types of operating systems: batch processing systems, multiprogramming systems and interacting processes: storage management; process and resource control; deadlock problem. Course is independent of any particular operating system.
- 428/528 UNIX SYSTEM PROGRAMMING** 3 credits
Prerequisite: 426 (and 330 or knowledge of C). An overview of the UNIX operating system. Shell programming, Process management, processor management, storage management, scheduling algorithms, resource protection, and system programming.
- 430/530 THEORY OF PROGRAMMING LANGUAGES** 3 credits
Prerequisite: 316 and 330. More advanced concepts underlying programming languages and their applications, formal definitions of programming languages, Backus Normal Form, semantics, 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 pattern classification algorithms.
- 440/540 COMPILER DESIGN** 3 credits
Prerequisites: 307 and 316. Techniques used in writing and modifying compilers including translation, loading, execution, symbol tables and storage allocation; compilation of simple expressions and statements. Organization of a compiler for handling lexical scan, syntax scan, object code generation, error diagnostics and code optimization. Use of compiler writing languages and boot-strapping. The course requires a project involving compiler writing.
- 455/555 DATA COMMUNICATION AND NETWORKS** 3 credits
Prerequisites: 210 (and 330 or knowledge of C). Introduction to data communications, teleprocessing networks: codes, modes of transmission, errors, protocol.
- 457/557 COMPUTER GRAPHICS** 3 credits
Prerequisite: 210 (and 330 or knowledge of C). Topics in vector graphics, scan line graphics, representations and languages for graphics.
- 460/560 ARTIFICIAL INTELLIGENCE AND HEURISTIC PROGRAMMING** 3 credits
Prerequisite: 316 (and 330 or knowledge of LISP). Study of various programs which have displayed some intelligent behavior. Exploration of level at which computers can display intelligence.
- 485/565 COMPUTER ORGANIZATION** 3 credits
Prerequisite: 306. An introduction to the hardware organization of the computer at the register, processor and systems level. An in-depth study of the architecture of a particular computer systems family.
- 467/567 MICROPROCESSOR PROGRAMMING AND INTERFACING** 3 credits
Prerequisites: 306, 316. Detailed study of a particular microprocessor architecture and instruction set. Standard device interface components. Real time programming concepts.
- 470/570 AUTOMATA, COMPUTABILITY AND FORMAL LANGUAGES** 3 credits
Prerequisite: 418. Presentation of theory of formal languages and their relation to automata. Topics include description of languages; regular context-free and context-sensitive grammars; finite, pushdown and linear-bounded automata; Turing machines; closure properties; computational complexity, stack automata and decidability.
- 475/575 DATA-BASE MANAGEMENT** 3 credits
Prerequisite: 316 (and 330 or knowledge of C). Fundamentals of data-base organization, data manipulations and representation, data integrity, privacy.
- 489/589 TOPICS IN COMPUTER SCIENCE** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in computer science at an advanced level.
- 491/591 WORKSHOP IN COMPUTER SCIENCE** 1-3 credits
Group studies of special topics in computer science. May not be used to meet graduate or undergraduate requirements in mathematics, statistics or computer science.
- 497/597 INDIVIDUAL READING IN COMPUTER SCIENCE** 1-3 credits
(May be repeated) Prerequisite: permission. Computer science major only. Directed studies designed as introduction to research problems, under guidance of designated faculty member.
- 498 SENIOR HONORS PROJECT** 1-3 credits
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:

- 250 INTRODUCTORY PROBABILITY** 2 credits
Prerequisite: 3450:145 or equivalent. Basic concepts of probability, random variables and their distributions, special discrete probability models, discrete event stochastic processes.
- 253-7 INTRODUCTION TO STATISTICS**
Introduction to fundamental ideas of statistics at precalculus level including topics from the following.
- 253 HYPOTHESIS TESTING (PARAMETRIC)** 1 credit
Prerequisite: 261.
- 255 REGRESSION AND CORRELATION** 1 credit
Prerequisite: 253.
- 256 EXPERIMENTAL DESIGN** 1 credit
Prerequisite: 253.
- 257 TIME SERIES AND INDEX NUMBERS** 1 credit
Prerequisite: 255.
- 260 BASIC STATISTICS** 3 credits
Prerequisite: Mathematics Placement Test. Applied approach to data description and statistical inference (hypothesis testing, estimation); one-sample parametric and nonparametric methods. Analysis of ratios, rates, and proportions. Computer applications.
- 261 INTRODUCTORY STATISTICS I** 2 credits
Prerequisite: Mathematics Placement Test. Descriptive statistics, tabular and graphical data displays; probability, probability distributions. Introduction to statistical inference (hypothesis testing, estimation); one-sample parametric and nonparametric methods. Computer applications.
- 262 INTRODUCTORY STATISTICS II** 2 credits
Prerequisite: 261 or equivalent. Parametric and nonparametric methods of statistical inference for paired data and two-sample problems; one-way ANOVA, simple linear regression and correlation. Computer applications.
- 280 INTRODUCTION TO STATISTICAL COMPUTING** 2 credits
Prerequisite: 260 or 262 or permission of the instructor. Introduction to statistical computing using statistical packages. Emphasis is on interpreting and using computer output of statistical problems involving descriptive statistics, hypothesis testing, regression, and analysis of variance.
- 289 SELECTED TOPICS IN STATISTICS** 1-3 credits
Prerequisite: Permission. Selected topics of interest in statistics.
- 415/515 MATHEMATICAL CONCEPTS FOR STATISTICS** 4 credits
Prerequisites: 3450:223, 3450:312, or equivalent. Topics from matrix algebra and analysis: quadratic forms, eigenvalues and roots, generalized inverses, vector functions, continuity, differentiation, extrema problems, multivariate integration, infinite series, and application. May not be used to meet graduate degree requirements for mathematical sciences majors.
- 450/550 PROBABILITY** 3 credits
Prerequisite: 3450:221. Introduction to probability, random variables and probability distributions, expected value, sums of random variables, Markov processes.

451,2/551,2 THEORETICAL STATISTICS I AND II

3 credits each

Sequential. Prerequisite: 3450.223. Elementary combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, introduction to experimental designs.

460/560 STATISTICAL METHODS

4 credits

Application of statistical methods to the social sciences including descriptive statistics, probability distributions, statistical inference (parametric, nonparametric), categorical data analysis, linear regression, correlation, computer applications. May not be used to meet Mathematical Sciences degree requirements.

461/561 APPLIED STATISTICS I

4 credits

Prerequisite: 3450.222 or 216 or equivalent. Applications of statistical theory to natural and physical sciences and engineering, including probability distributions, interval estimation, hypotheses testing (parametric and nonparametric), and simple linear regression and correlation.

462/562 APPLIED STATISTICS II

4 credits

Prerequisite: 461/561 or equivalent. Applications of the techniques of regression and multifactor analysis of variance.

465/565 DESIGN OF SAMPLE SURVEYS

3 credits

Prerequisite: 461/561 or equivalent. Design and analysis of frequently used sample survey techniques.

467/567 RESPONSE SURFACE METHODOLOGY

3 credits

Prerequisite: 462/562 or equivalent. First and second order response surface designs, efficient experimental plans, methods for the analysis, and optimization of response functions.

469/569 RELIABILITY MODELS

3 credits

Prerequisite: 461/561. Selected topics in reliability modeling including parametric and nonparametric models, competing modes of failure, censored data and accelerated life models.

471/571 ACTUARIAL SCIENCE I

3 credits

Prerequisite: 3450.216 or 222 or equivalent. Study of various statistical, financial, and mathematical calculations used to determine insurance premiums related to contingent risks based on individual risk model frameworks.

472/572 ACTUARIAL SCIENCE II

3 credits

Prerequisite: 471/571. Continuation of Actuarial Science I. Study of multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, nonforfeiture benefits and dividends.

475/575 FOUNDATIONS OF STATISTICAL QUALITY CONTROL

3 credits

Prerequisite: 461/561 or equivalent. Course provides a solid foundation in the theory and applications of statistical techniques widely used in industry.

480/580 STATISTICAL COMPUTER APPLICATIONS

3 credits

Prerequisites: 3450.222 and one semester course in statistics or permission. Translation of statistical operations into computer languages, iterative procedures, generating data, Monte Carlo techniques, use of statistical packages.

489/589 TOPICS IN STATISTICS

1-3 credits

(May be repeated for a total of six credits) Prerequisite: permission. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.

491/591 WORKSHOP IN STATISTICS

1-3 credits

(May be repeated with change of topic) Group studies of special topics in statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.

495/595 STATISTICAL CONSULTING

1-3 credits

Prerequisite: 480/580 or permission. Students will be assigned to work with an instructor on current projects in the Center for Statistical Consulting. May be repeated for a total of 4 credits; however, only 2 credits will count toward major requirements. Does not count for elective credit for math science department majors.

497 INDIVIDUAL READING

1-2 credits

(May be repeated for a total of four credits) Prerequisites: senior standing and permission. Directed studies in statistics designed as introduction to research problems under guidance of selected faculty member.

498 SENIOR HONORS PROJECT

1-3 credits

Prerequisite: 489 (honors). Directed study for senior student in the University Honors Program who has completed 3450.489 (honors). An introduction to research problems in the mathematical sciences under the guidance of selected faculty.

MODERN LANGUAGES**3500:****PLACEMENT PROCEDURES FOR NEW STUDENT**

Student who has taken one year or less of a foreign language in high school should enroll in 101. Those who have taken more than one year of a foreign language in high school should take the placement test (Counseling and Testing, Simmons Hall 161). For placement in third-year courses or higher, department permission is required.

101,2 BEGINNING MODERN LANGUAGE I AND II

4 credits each

(May be repeated for a different language) Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronunciation; short stories, outside reading and supplementary work in language laboratory.

201,2 INTERMEDIATE MODERN LANGUAGE I AND II

3 credits each

(May be repeated for a different language) Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays, novels on intermediate level.

320 FRENCH CANADIAN LITERATURE IN TRANSLATION

3 credits

Prerequisite: French major and minors only, 3520.306. Reading and discussion of English translations of French Canadian Literature. French majors and minors must read original French version and do all writing in French.

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 major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

FRENCH**3520:****101,2 BEGINNING FRENCH I AND II**

4 credits each

Sequential. Thorough study of sound system and basic structural patterns of French language, including oral practice and reading of simple prose. A placement test is required.

201,2 INTERMEDIATE FRENCH I AND II

3 credits each

Sequential. Prerequisite: 102 or equivalent. Audio-oral sections. Practice in reading, writing, speaking and listening comprehension. Grammar review, short stories, plays and novels on intermediate level. A placement test is required.

207,8 INTERMEDIATE FRENCH I AND II READING OPTION

3 credits each

Sequential. Prerequisite: 102 or equivalent. Reading and translation of texts dealing with contrasting French and American customs, values and attitudes.

301,2 FRENCH COMPOSITION AND CONVERSATION

3 credits each

Sequential. Prerequisite: 202 or equivalent. Free composition, special attention to vocabulary and idioms, development of oral expression and conversational ability. Prerequisite for 302 is 301 or equivalent.

305,6 INTRODUCTION TO FRENCH LITERATURE

3 credits each

Prerequisite: 302 or equivalent. Survey of French literature from its origins to present, with lectures, reading and class discussion of representative works.

309,10 FRENCH CULTURE AND CIVILIZATION

3 credits each

Prerequisite: 302 or 306 or permission. Audio-visual presentation with class discussions of French cultural heritage from its origins to present. Conducted in French.

311 CONTEMPORARY FRENCH CIVILIZATION

3 credits

Prerequisite: 202 or equivalent. A study of contemporary French society, customs, political and social issues. Conducted in French.

312 INDIVIDUAL SUMMER STUDY ABROAD

2 credits

Prerequisites: 202 or equivalent and permission of instructor.

313 FRENCH CIVILIZATION AS SEEN IN THE MOVIES

3 credits

Prerequisites: 302 (for majors). Study and discussion of various aspects of French culture and civilization as characterized in movies. Conducted in French (films, papers, and discussion). Prerequisite is 302 if course is to count toward French major. Non-majors may choose to write papers in English.

315 FRENCH PHONETICS

3 credits

Prerequisite or corequisite: 202 or equivalent. Intensive drill in pronunciation with correction and improvement of student's accent, emphasis on articulation, intonation and rhythm.

351,2 TRANSLATION: FRENCH

3 credits each

402/502 ADVANCED FRENCH GRAMMAR

3 credits

Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles.

403,4 ADVANCED FRENCH COMPOSITION AND CONVERSATION

3 credits each

Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

407/507 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of selected Medieval and Renaissance literary works. Conducted in French.

411/511 17TH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of selected works in poetry, drama and novels. Conducted in French.

415/515 18TH 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 19TH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of selected works pertaining to romantic, realistic and naturalistic movements. Conducted in French.

427/527 20TH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative works of period. Conducted in French.

429/529 FRANCOPHONE CARIBBEAN LITERATURE

3 credits

Prerequisites: 302 or 306 or permission of instructor. A study of selected literary works from Haiti, Guadeloupe, and Martinique in light of their geographic, historic, socioethnic, and cultural determinants.

450 EXPLICATION DE TEXTES

3 credits

Prerequisite: 302 or 306 or permission. Study of traditional French method of literary analysis based on passages of representative authors from selected periods of French literary history.

460/560 SELECTED THEMES IN FRENCH LITERATURE

3 credits

(May be repeated.) Conducted in French. Prerequisite: 302 and 306 or equivalents. Reading and discussion of literary works selected according to an important theme.

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

Prerequisite: 302 and permission of French section.

GERMAN**3530:****101,2 BEGINNING GERMAN I AND II**

4 credits each

Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronunciation; short stories, outside reading and supplementary work in language laboratory.

- 201,2 INTERMEDIATE GERMAN I AND II** 3 credits each
Sequential. Prerequisite: 102 or equivalent. Grammar review, reading, writing, speaking, listening comprehension; short stories, plays, novels on intermediate level; outside reading and supplementary work in language laboratory.
- 207,8 INTERMEDIATE GERMAN I AND II READING OPTIONS** 3 credits each
Sequential. Prerequisites: 102 or equivalent and permission. Reading of German texts in culture and civilization, discussion in English, translation and grammatical analysis. Not open to majors.
- 250 20TH CENTURY GERMAN LITERATURE IN TRANSLATION** 2 credits
Reading and discussion of works of Mann, Rilke, Hesse, Kafka, Benn, Brecht, Frisch, Durren-matt, Borchert and Grass. May not be taken for credit toward the major in German.
- 251 19TH CENTURY GERMAN LITERATURE IN TRANSLATION** 2 credits
Reading and discussion of works in Kleist, Heine, Hebbel, Keller, Storm, Meyer and Haupt-mann. May not be taken for credit toward the German major.
- 252 AGE OF GOETHE IN TRANSLATION** 2 credits
Reading and discussion of representative drama, prose and poetry of Lessing, Goethe and Schiller. May not be taken for credit toward the German major.
- 301,2 GERMAN CONVERSATION AND COMPOSITION** 3 credits each
Prerequisite: 202 or equivalent. Advanced composition using German models, special atten-tion to words and idioms, development of oral expression and conversational ability.
- 305,6 INTRODUCTION TO GERMAN LITERATURE** 3 credits each
Prerequisite: 202 or equivalent. Introduction to study of German literature. Reading and class discussion of representative works. Conducted in German.
- 351,2 TRANSLATION: GERMAN** 3 credits each
- 403,4 ADVANCED GERMAN CONVERSATION AND COMPOSITION** 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.
- 406,7 GERMAN CULTURE AND CIVILIZATION** 3 credits each
Prerequisite: 302 or 306 or equivalent. Particular emphasis on customs, traditions, literary trends and artistic tendencies that constitute German's contribution to Western civilization.
- 419/519 THE AGE OF GOETHE I** 3 credits
Prerequisite: 302 or 306 or permission. Enlightenment and generation of Sturm und Drang, including works of Wieland, Lessing, Klopstock, Herder, the young Goethe and others. Con-ducted in German.
- 420/520 THE AGE OF GOETHE II** 3 credits
Prerequisites: 302, 306 or permission. Faust, selections from parts I and II. Ballads of Goethe and Schiller. Conducted in German.
- 431/531 200 YEARS OF GERMAN DRAMA** 3 credits
Prerequisite: 302 or 306 or permission. Representative works of major classical dramatics including Lessing, Goethe, Schiller, Kleist, Grillparzer. Conducted in German.
- 432/532 200 YEARS OF GERMAN DRAMA** 3 credits
Prerequisite: 302 or 306 or permission. Representative works of the major dramatists, Buchner, Hebbel, Hauptmann and Wedekind. Conducted in German.
- 435/535 GERMAN SHORT STORY** 3 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of representative works of German romanticism, including those of Tieck, Kleist, E. T. A. Hoffman, Brentano, Eichen-dorff. Conducted in German.
- 436/536 GERMAN SHORT STORY** 3 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of works representative of the period, including those of Droste-Hulshoff, Stifter, Keller, Meyer, Storm. Conducted in German.
- 439/539 20TH CENTURY LITERATURE I** 3 credits
Prerequisite: 302 or 306 or permission. Clash of the old and the new at the turn of the cen-tury. Works of T. Mann, Hauptmann, Kaiser, Hofmannsthal, Rilke, Wedekind and others. Con-ducted in German.
- 440/540 20TH CENTURY GERMAN LITERATURE II** 3 credits
Prerequisite: 302 or 306 or permission. Impact of modernity. Reading and discussion of writings of Hesse, Kafka, Doblin, Werfel and others. Conducted in German.
- 471/571 GERMAN LANGUAGE READING PROFICIENCY** 4 credits
Designed to develop proficiency in reading comprehension.
- 497,8 INDIVIDUAL READING IN GERMAN** 1-3 credits each
Prerequisite: permission.

ITALIAN

3550:

- 101,2 BEGINNING ITALIAN I AND II** 4 credits each
Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronun-ciation; 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, speak-ing and listening comprehension; short stories, plays, novels on intermediate level; outside reading and supplementary work in language laboratory.
- 207,8 INTERMEDIATE ITALIAN I AND II READING OPTION** 3 credits each
Sequential. Prerequisite: 102 or equivalent. Readings cover various aspects of Italian culture through the centuries, with particular emphasis on history, literature, art and contemporary Italian way of life as compared with American one.
- 250 GENIUS OF ITALIAN LITERATURE IN TRANSLATION** 2 credits
Reading and discussion of works of Dante, Petrarca, Boccaccio, Ariosto, Machiavelli, Cellini, Tasso, Bruno and Pirandello De Filippo.
- 301,2 ITALIAN COMPOSITION AND CONVERSATION** 3 credits each
Prerequisite: 202 or equivalent. Italian composition using Italian models, special attention to words and idioms and development of oral expression and conversational ability.
- 305,6 INTRODUCTION TO LITERATURE** 3 credits each
Prerequisite: 202 or equivalent. Introduction to study of Italian literature. Reading and class discussion in Italian of representative works.
- 497 INDIVIDUAL READING IN ITALIAN** 1-3 credits
Prerequisite: permission.

RUSSIAN

3570:

- 101,2 BEGINNING RUSSIAN I AND II** 4 credits each
Reading, speaking, writing, and understanding; intensive drill in pronunciation and supple-mentary work in language laboratory.
- 201,2 INTERMEDIATE RUSSIAN I AND II** 3 credits each
Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking; short stories, novels on intermediate level; outside reading and supplementary work in language laboratory.
- 207,8 INTERMEDIATE RUSSIAN I AND II READING OPTION** 3 credits each
Sequential. Prerequisite: 102 or equivalent. Reading of texts in Russian dealing with culture of Russian-speaking people. Discussion of content of these texts in English along with review of grammar to extent necessary for accurate understanding of texts. Not open to majors.
- 301,2 RUSSIAN COMPOSITION AND CONVERSATION** 3 credits each
Prerequisite: 202 or equivalent. Advanced composition using Russian models, special atten-tion to words and idioms; development of oral expression and conversational ability.
- 305,6 INTRODUCTION TO RUSSIAN LITERATURE** 3 credits each
Prerequisite: 202 or equivalent. Reading and class discussion in Russian of representative works.
- 309,10 RUSSIAN CIVILIZATION AND CULTURE** 3 credits each
Prerequisite: 202 or equivalent. Reading and discussion of Russian texts relating to develop-ments in Russian civilization and culture.
- 351,2 TRANSLATION: RUSSIAN** 3 credits each
- 403,4 ADVANCED RUSSIAN COMPOSITION AND CONVERSATION** 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.
- 411,2 SCIENTIFIC RUSSIAN** 3 credits each
Prerequisite: 202 or equivalent. Intensive reading of scientific articles in chemistry, physics, mathematics, biology and medicine.
- 420,1 RUSSIAN LITERATURE OF THE 19TH CENTURY: ROMANTICISM AND REALISM** 3 credits each
Prerequisites: 301 or 302 or permission. Readings from representative authors such as Pushkin, Lermontov, Gogol, Turgenev, Dostoyevsky, Tolstoy, Goncharov and others.
- 427,8 RUSSIAN LITERATURE OF THE 20TH CENTURY** 3 credits each
Prerequisite: 302 or equivalent. Reading and discussion of selected literary works from Gorky to Solzhenitsyn.
- 439 ADVANCED RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION** 3 credits
Prerequisite: 404 or equivalent. Advanced work in composition, translation into Russian and idiomatic use of the spoken language.
- 497,8 INDIVIDUAL READING IN RUSSIAN** 1-3 credits each
Prerequisite: permission.

SPANISH

3580:

- 101,2 BEGINNING SPANISH I AND II** 4 credits each
Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronun-ciation; 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, speak-ing and listening comprehension; short stories, plays novels on intermediate level; outside reading and supplementary work in language laboratory.
- 207,8 INTERMEDIATE SPANISH I AND II READING OPTION** 3 credits each
Sequential. Prerequisites: 102 or equivalent and permission. Reading of texts in Spanish dealing with culture of Spanish-speaking people. Not open to majors.
- 301,2 SPANISH COMPOSITION AND CONVERSATION** 3 credits each
Prerequisite: 202 or equivalent. Advanced composition using Spanish models, special atten-tion to words and idioms, development of oral expression and conversational ability.
- 311 SPANISH/SPANISH-AMERICAN CULTURAL EXPERIENCE** 1-2 credits
Prerequisite: permission. Student's residence and/or independent study in Spanish-speaking country which results in demonstrable assimilation of country's culture may earn a maximum of two credits.
- 350 CONTEMPORARY LATIN AMERICAN FICTION IN TRANSLATION** 3 credits
(May not be taken for credit toward the Spanish major.) Reading, discussion of novels, short stories of major Spanish American and Brazilian writers. Designed as an elective for upper-level students. Texts and discussion in English.
- 351,2 TRANSLATION: SPANISH** 3 credits each
- 401,2 ADVANCED COMPOSITION AND CONVERSATION** 3 credits each
Prerequisites: 302 or equivalent. Development of proficiency in speaking and writing Spanish at a level beyond that achieved in 301.2. Conducted in Spanish.
- 403 ADVANCED GRAMMAR** 3 credits
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.
- 405/505 SPANISH LINGUISTICS: PHONOLOGY** 4 credits
Prerequisite: permission. Descriptive study of Spanish phonetics and morphology, comparison of Spanish and English sounds, historical aspects, regional accents and sociolinguistic varia-tion. Conducted in Spanish.
- 406/506 SPANISH LINGUISTICS: SYNTAX** 4 credits
Prerequisite: permission. Descriptive study of Spanish syntax; introduction to theories of gram-mar; overview of Spanish semantics and pragmatics. Conducted in Spanish.
- 407 INTRODUCTION TO HISPANIC LITERATURE: SPAIN** 4 credits
Prerequisites: 302 or equivalent. Reading and discussion of modern Spanish literature including drama, poetry, essay and fiction. Introduction to the fundamentals of literary criticism and literary movements. Conducted in Spanish.

- 408 INTRODUCTION TO HISPANIC LITERATURE: SPANISH AMERICAN** 4 credits
Prerequisites: 302 or equivalent. Reading and discussion of modern Spanish American drama, poetry, essay and fiction. Introduction to literary movements in Spanish American literature. Conducted in Spanish.
- 409/509 MEDIEVAL AND RENAISSANCE SPANISH LITERATURE** 4 credits
Prerequisite: 407 or 408 or permission. Reading and discussion of representative works that mark beginnings of Spanish literature in poetry, prose and drama, with emphasis given to the major works: *Cantar de Mio Cid*, *El Libro de Buen Amor*, *La Celestina* and the ballads. Conducted in Spanish.
- 411/511 SPANISH LITERATURE OF THE GOLDEN AGE** 4 credits
Prerequisite: 407 or 408 or permission. Reading and discussion of representative novels and short stories with special emphasis on works of Miguel de Cervantes. Drama, poetry and essays of 16th and 17th Centuries studied. Conducted in Spanish.
- 412/512 CERVANTES: DON QUIJOTE** 4 credits
Prerequisite: 407 or 408 or permission of the instructor. Reading and analysis of Don Quijote as the first modern novel in the historical context of Renaissance and Baroque esthetics. Conducted in Spanish.
- 415/515 18TH AND 19TH CENTURY SPANISH DRAMA AND POETRY** 4 credits
Prerequisite: 407 or 408 or permission. Reading, discussion and lectures: Study of Neoclassicismo and Romanticismo. Conducted in Spanish.
- 416/516 19TH CENTURY SPANISH PROSE** 4 credits
Prerequisite: 407 or 408 or permission. Reading, discussion and lectures. Study of Realismo, Naturalismo and La Generacion del 98. Conducted in Spanish.
- 418/518 20TH CENTURY SPANISH PROSE** 4 credits
Prerequisite: 407 or 408 or permission of the instructor. Reading and analysis of representative writers of prose fiction with a selection of works that illustrates major developments and themes. Conducted in Spanish.
- 419/519 20TH CENTURY SPANISH DRAMA/POETRY** 4 credits
Prerequisite: 305 or permission of the instructor. Reading and analysis of representative writers of drama and poetry with a selection of works that illustrates the major developments and themes in both genres. Conducted in Spanish.
- 422/522 SPECIAL TOPICS IN HISPANIC CULTURE** 1-4 credits
(May be repeated) Reading and discussion of significant works in literature or culture in Spain and Latin America not studied in other courses.
- 423/523 SPANISH-AMERICAN LITERATURE BEFORE 1900** 4 credits
Prerequisite: 407 or 408 or permission. Reading of representative Spanish-American literature from the discovery to 1900. Oral and written reports. Conducted in Spanish.
- 424/524 20TH CENTURY SPANISH-AMERICAN LITERATURE** 4 credits
Prerequisite: 407 or 408 or permission. Reading and analysis of selected dramas, essays, poems and short fiction written by outstanding Spanish-American authors of this century. Conducted in Spanish.
- 425/525 20TH CENTURY SPANISH-AMERICAN NOVEL** 4 credits
Prerequisite: 305 or permission. Reading and discussion of representative contemporary Latin American novels. Conducted in Spanish.
- 427,8/527,8 SPANISH AND SPANISH-AMERICAN CULTURE AND CIVILIZATION** 4 credits each
Prerequisite: 302 or permission. Emphasis on customs, traditions, literary trends and artistic tendencies that constitute Spain's specific contribution to Western civilization. Study of Spanish-speaking world. Conducted in Spanish.
- 429/529 CULTURE AND LITERATURE OF THE HISPANIC CARIBBEAN** 4 credits
Prerequisite: 302 or permission. Emphasis on customs, traditions, and literature, including lectures, films, slides, and analysis of selected writings by contemporary Hispanic authors from the Caribbean. Conducted in Spanish.
- 430/530 WOMEN IN 20TH CENTURY HISPANIC LITERATURE** 4 credits
Prerequisite: 407 or 408 or permission. Reading and analysis of selected works from the 20th Century that depict women in Hispanic countries. Methodologies of feminist criticism will be studied. 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.

- 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 sophomore level.
- 312 HISTORY OF MEDIEVAL PHILOSOPHY** 3 credits
History of Western philosophy from end of Roman Empire to Renaissance. Major philosophers studied include St. Augustine, St. Anselm, Peter Abelard, St. Thomas Aquinas, Duns Scotus and William of Ockham. Readings from primary sources.
- 313 HISTORY OF MODERN PHILOSOPHY** 3 credits
Analysis of major philosophical issues of 17th and 18th Centuries from Descartes through Kant. Readings of primary sources in translation.
- 314 19TH 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 topics in Ethical Theory such as the Naturalistic Fallacy, Ethical Non-Cognitivism, Prescriptivism, Theories of Rights, Theories of Punishment, Nihilism, Relativism, 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. Analyses concepts such as rights, justice, equality, political obligation from historical as well as contemporary points of view. Application to particular social issues covered.
- 332 DIALECTICAL MATERIALISM** 3 credits
Prerequisite: 324 or permission of instructor. Includes Hegelian and other origins as well as its development in writings of Marx, Engels, Lenin and contemporary writers. Focus on metaphysics, social philosophy, philosophy of history, human nature, ethics, aesthetics.
- 350 PHILOSOPHY OF ART** 3 credits
Prerequisite: One course in philosophy or permission of instructor. An examination of theories of the nature of art and the grounds of aesthetic evaluation. Analysis of such concepts as representation, form, content, expression, institution, convention, meaning, truth as they apply in the context of the arts.
- 361 BIOMEDICAL ETHICS** 3 credits
Prerequisites: 101, 120 or 170; or permission of instructor. The identification, analysis and evaluation of ethical issues arising most critically in the biomedical setting, e.g., abortion, termination of treatment, definition of death, IVF, AIDS.
- 362 BUSINESS ETHICS** 3 credits
Prerequisites: 101, 120 or 170; or permission of instructor. Basic moral theories, moral principles and the decision-making process, applied to issues in business.
- 363 POLICE ETHICS** 3 credits
Prerequisites: 101, 120 or 170; or permission of instructor. Basic moral concepts and their application to the criminal justice system. Concerned with such issues as punishment, the use of force and conflict resolution.
- 371 PHILOSOPHY OF MIND** 3 credits
Nature of mind and the relationship between mind and body. Specific topics such as the limits of human reason, personal identity, the role of human thought in action and whether machines can think are also considered.
- 374 SYMBOLIC LOGIC** 3 credits
Prerequisite: 170 or permission of instructor. Detailed consideration of propositional and first-order predicate logic. Introduction to class logic, modal logics and axiomatics.
- 380 JUNIOR TOPICS IN PHILOSOPHY** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in philosophy at the junior level.
- 390 JUNIOR HONORS COLLOQUIUM** 3 credits
Prerequisite: junior standing in Honors Program or junior honors standing as philosophy major or permission of instructor or nomination by department faculty member. Selected readings, research, writing and defense of one or more philosophical projects. Preparation and foundation for senior honors project in philosophy.
- 411/511 LATER DIALOGUES OF PLATO** 3 credits
Prerequisites: one introductory course and 211 or permission of instructor. Readings of dialogues in translation, commencing with Theatetus including: Parmenides, Sophist, Statesman, Philebus.
- 418/518 ANALYTIC PHILOSOPHY** 3 credits
Prerequisites: 211, 312 and 313 or permission of instructor. Study of ideal and ordinary language movements in 20th Century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Ryle and Austen.
- 419/519 BRITISH EMPIRICISM** 3 credits
Prerequisites: one introductory course and 313 or permission of instructor. Intensive analysis of selected major writings of Locke, Berkeley and Hume.
- 421/521 PHILOSOPHY OF LAW** 3 credits
Prerequisite: one course in philosophy or permission of instructor. Philosophical inquiry into the nature of law and legal institutions.
- 422/522 CONTINENTAL RATIONALISM** 3 credits
Prerequisites: one introductory course and 313 or permission of instructor. Intensive analysis of selected major writings of Descartes, Spinoza and Leibnitz.
- 424/524 EXISTENTIALISM** 3 credits
Prerequisites: one introductory course in philosophy, 314 or permission of instructor. In-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tillich and other existentialists with their concern for the human condition.
- 426/526 PHENOMENOLOGY** 3 credits
Prerequisites: one introductory course, 314 or permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought.
- 432/532 ARISTOTLE** 3 credits
Prerequisites: 211, 312 and 313 or permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of mankind and ethics. Taught in alternate years.
- 434/534 KANT** 3 credits
Prerequisite: 313 or permission of instructor. Study of Kantian system of thought and its relation to history of philosophy. Includes thorough investigation of one or more of Kant's philosophic works.
- 444/544 PROBLEMS IN PHILOSOPHY** 3 credits
Prerequisites: two courses in philosophy or permission of instructor. Thorough, critical examination of one major philosophical problem.
- 462/562 THEORY OF KNOWLEDGE** 3 credits
Prerequisites: three courses in philosophy. Examination of nature of knowledge; theories of perception, conception and truth, problem of induction and relation of language to knowledge.

PHILOSOPHY

3600:

- 101 INTRODUCTION TO PHILOSOPHY** 3 credits
Introduction to philosophic problems and attitudes through acquaintance with thoughts on some leading thinkers of Western tradition.
- 120 INTRODUCTION TO ETHICS** 3 credits
Introduction to problems of moral conduct through readings from the tradition and class discussions; nature of "good," "right," "ought" and "freedom."
- 125 THEORY AND EVIDENCE** 3 credits
An investigation of the concept of evidence and the criteria for the evaluation of theories in various areas of study including the natural sciences, the social sciences and philosophy. The role of scientific information in the formation and justification of value judgments.
- 170 INTRODUCTION TO LOGIC** 3 credits
Introduction to logic and critical thinking. Includes such topics as meaning, informal fallacies, propositional logic, predicate and syllogistic logic and nature of induction.
- 211 HISTORY OF ANCIENT PHILOSOPHY** 3 credits
History and development of ancient Greek philosophy from pre-Socrates to Aristotle. Readings of primary sources in translation.
- 216 AMERICAN PHILOSOPHY** 3 credits
Prerequisite: one course in philosophy or permission of instructor. Movement of ideas in American from Royce to present.
- 232 PHILOSOPHY OF RELIGION** 3 credits
Prerequisites: two philosophy courses. Discussion, analysis of problems of theology, nature of religious experience; God's nature, existence; immortality, sin, faith, reason; holy revelation, redemption.

- 464/564 PHILOSOPHY OF SCIENCE** 3 credits
Prerequisites: 101, 170 or permission of instructor. Nature of scientific inquiry, types of explanation, laws and causality, theoretical concepts and reality. Also considers critics of hypothetical-deductive view of science, e.g., Hanson and Kuhn.
- 471/571 METAPHYSICS** 3 credits
Prerequisites: 211, 312 and 313 or permission of instructor. Theories about ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources.
- 480/560 SEMINAR** 3 credits
(May be repeated) Prerequisite: permission of instructor.
- 481/581 PHILOSOPHY OF LANGUAGE** 3 credits
Prerequisites: 101 and 170 or permission of instructor. Contemporary philosophies about nature of language and its relation to reality and human thinking. Includes discussion of views of linguists such as Chomsky.
- 490 SENIOR HONORS PROJECT IN PHILOSOPHY** 1-6 credits
(May be repeated for a total of six credits) Prerequisite: 390 or senior standing in Honors Program or senior honors standing as philosophy major or permission of instructor or nomination by department faculty member. Research leading to completion of senior honors thesis involving original work under faculty supervision.
- 497/597 INDIVIDUAL STUDY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: completion of required courses of philosophy major or permission of instructor and department head. Directed independent study of philosopher, philosophy or philosophical problem under guidance of selected faculty member. Subject matter determined by selected faculty member in consultation with student. Graduate credit requires significant additional work which may include additional research paper.

PHYSICS

3650:

- 130 DESCRIPTIVE ASTRONOMY** 3 credits
Qualitative and non-mathematical introduction to subjects of astronomy and astrophysics, intended primarily as a first science course for students not majoring in physical science.
- 133 MUSIC, SOUND AND PHYSICS** 3 credits
Qualitative introduction to sound production, perception and reproduction, with emphasis on music.
- 137 LIGHT** 3 credits
Introductory, qualitative course dealing with nature of light, and interaction of light with material objects to produce common visual effects.
- 136 PROPERTIES OF LIGHT LABORATORY** 1 credit
Prerequisite or corequisite: 137 or permission. Introductory laboratory dealing qualitatively and quantitatively with properties of light and interaction of light with material objects.
- 141 PHYSICS, ENERGY AND MAN** 3 credits
Introductory, qualitative course dealing with nature of energy including its availability, conservation and utilization. Energy resources; conversion efficiencies; environmental effects of energy production; recent developments.
- 160 PHYSICS IN SPORTS** 3 credits
An introduction to physics, particularly mechanics. Athletic activities utilized to illustrate principles.
- 261 PHYSICS FOR THE LIFE SCIENCES I** 4 credits
Prerequisites: high school algebra, trigonometry or 3450:149 as corequisite or permission. Introductory course for professional work in biology and health professions and services. Emphasizes life science applications. Mechanics: laws of motion, force, torque, work, energy, power; properties of matter: gases, liquids, solids, fluid mechanics.
- 262 PHYSICS FOR THE LIFE SCIENCES II** 4 credits
Prerequisite: 261. Laws of thermodynamics, kinetic theory. Wave phenomena: sound, light, optics; electricity and magnetism; atomic and nuclear physics; radioactivity.
- 267,6 LIFE SCIENCE PHYSICS COMPUTATIONS I AND II** 1 credit each
Corequisites: 261 (with 267); 262 (with 268). Optional companion courses to 261,2 provides additional computational experience in applications of physics to life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for student with modest mathematical preparation.
- 291 ELEMENTARY CLASSICAL PHYSICS I** 4 credits
Corequisite: 3450:221. Introductory physics for student of science and engineering. Classical statics, kinematics and dynamics, as related to contemporary physics. Oscillations, waves; fluid mechanics. Vectors and some calculus introduced as needed.
- 292 ELEMENTARY CLASSICAL PHYSICS II** 4 credits
Prerequisite: 291. Thermodynamics from atomic point of view; basic laws of electromagnetism; mechanical and electromagnetic waves. Interference and diffraction; coherence; geometrical and physical optics.
- 293,4 PHYSICS COMPUTATIONS I AND II** 1 credit each
Corequisite: 291 (with 293); 292 (with 294). Optional companion courses to 291,2 provides experience in problem solving, and elaborates application of calculus to simple physical phenomena. Particularly recommended for a freshman and for student with modest preparation in mathematics or physical sciences.
- 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.
- 310 ELECTRONICS** 3 credits
Prerequisite: 262 or 292. AC and DC circuit theory, digital integrated logic circuits, counters, digital waveshaping, A to D and D to A conversion and applications.
- 320 OPTICS** 3 credits
Prerequisites: 262 or 292 and 3450:223. Geometric optics: reflection, mirrors, refraction, optical instruments. Physical optics: waves, superposition, coherence, lasers, interference, diffraction, absorption and scattering, dispersion, double refraction, polarization, optical activity.
- 321 PHYSICS LABORATORY TECHNIQUES** 2 credits
Prerequisite: permission of instructor. Design and fabrication of simple mechanical systems, photography in data collection, electronic chassis construction, printed circuit techniques, optical measuring instruments.
- 322,23 INTERMEDIATE LABORATORY I AND II** 2 credits each
Prerequisite: 262 or 292. Laboratory course stressing measurement techniques with contemporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Modern physics experiments and measurement of fundamental natural constants.
- 325 LABORATORY DATA ANALYSIS** 3 credits
Prerequisites: 292 and 3460:209. Numerical methods for analysis of laboratory data. Computer methods and programs to draw correct inferences and maximize usefulness of laboratory data.
- 331,2 ASTROPHYSICS I AND II** 3 credits each
Prerequisite: 262 or 292. One-year comprehensive, qualitative course recommended for student majoring in physics or natural science, and for secondary school teachers and others desiring comprehensive survey of astronomy and astrophysics at intermediate level.
- 340 THERMAL PHYSICS** 3 credits
Prerequisites: 262 or 292. Basic principles of thermal and statistical physics. Ensembles, laws of thermodynamics, equilibrium, irreversibility, equipartition theorem, canonical distribution, Maxwell distribution, phase changes, cyclic processes, transport processes.
- 350 COMPUTATIONAL PHYSICS** 3 credits
Prerequisites: 292, or 262 and 3450:221; and 3460:201, 3460:210, or 4100:206. Numerical techniques for computer solutions to physics problems, including mechanics, gravitation, electricity and magnetism, and modern physics.
- 399 UNDERGRADUATE RESEARCH** 1-6 credits
(May be repeated) Prerequisite: permission of instructor. Participation in current research project in department under supervision of faculty member.
- 400/500 HISTORY OF PHYSICS** 3 credits
Prerequisite: 262 or 292. Study of origin and evolution of major principles and concepts characterizing contemporary physics.
- 406/506 WAVES** 3 credits
Prerequisite: 262 or 292. Analysis of phenomena common to all waves, including free oscillations, forced oscillations, traveling waves, reflection, polarization, interference and diffraction. Water, sound, electromagnetic, seismic and deBroglie waves examined.
- 431/531 MECHANICS I** 3 credits
Prerequisites: 292 and 3450:235. Mechanics at intermediate level. Newtonian mechanics, motion of a particle in one dimension, central field problem, system of particles, conservation laws, rigid bodies, gravitation.
- 432/532 MECHANICS II** 3 credits
Prerequisite: 431/531. Advanced mechanics at the senior or beginning graduate level, moving coordinate systems, mechanics of continuous media, Lagrange's equations, tensor algebra and stress analysis, rotation of rigid bodies, vibration theory.
- 436/536 ELECTROMAGNETISM I** 3 credits
Prerequisites: 292, 3450:235 or permission of instructor. Electricity and magnetism at intermediate level. Electrostatics and magnetostatics, electric field, scalar potential, dielectrics, Laplace's and Poisson's equations, currents, magnetic field, vector potential, magnetic materials, inductance.
- 437/537 ELECTROMAGNETISM II** 3 credits
Prerequisite: 436/536. Special relativity, four vectors, Maxwell's equations in covariant form; propagation, reflection and refraction of electromagnetic waves; multipole radiation.
- 438/538 METHODS OF APPLIED PHYSICS** 3 credits
Topics: design, performance, interpretation, reporting of physical measurements; the scientific method, measurements, their uncertainties, principles of experimentation, measurement devices, data resolution and analysis, inference.
- 441/541 QUANTUM PHYSICS I** 3 credits
Prerequisites: 301 and 3450:235. Laboratory course stressing measurement techniques with contemporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Modern physics experiments and measurements of fundamental natural constants.
- 442/542 QUANTUM PHYSICS II** 3 credits
Prerequisite: 441/541. Applications of quantum mechanics to atomic, nuclear and solid state physics. Tunneling and alpha decay, periodic potential, Hydrogen and Helium atoms, interatomic forces, quantum statistics.
- 451,2/551,2 ADVANCED LABORATORY I AND II** 2 credits each
Prerequisite: 323 or permission of instructor. Applications of electronic, solid-state devices, techniques to research-type projects in contemporary physics. Introduction to resonance techniques: nuclear magnetic resonance, electron spin resonance, nuclear quadrupole resonance. Scintillation spectroscopy. Alpha- and beta-ray spectroscopy.
- 466/566 DIGITAL DATA ACQUISITION** 3 credits
Prerequisite: 262 or 292. Designed to introduce science and mathematics students to use of digital techniques of interfacing instruments to microcomputers. Physical measurements and device control are emphasized.
- 470/570 INTRODUCTION TO SOLID-STATE PHYSICS** 3 credits
Prerequisite: 441 or permission of instructor. Account of basic physical processes occurring in solids, with emphasis on fundamental relation between these processes and periodicity of crystalline lattice.
- 471,2/571,2 NMR SPECTROSCOPY I AND II** 2 credits each
Prerequisite: 292 or permission of instructor. Theoretical basis and experimental techniques of NMR spectroscopy. Classical concepts and quantum mechanical treatments of NMR. Bloch equations; spin-spin and spin-lattice relaxation times. Steady state and transient phenomena. General features of broadline and high-resolution NMR spectra. NMR instrumentation and operating principles. Theory and analysis of high-resolution NMR spectra. Quantitative applications of broadline and high-resolution NMR spectra and determination of physical and chemical structures.
- 481,2/581,2 METHODS OF MATHEMATICAL PHYSICS I AND II** 3 credits each
Prerequisites: 292, 3450:235 and senior or graduate standing in a physical science or engineering. Vectors, generalized coordinates, tensors, calculus of variations, vector spaces, linear transformations, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variables, analytic functions, Green's functions, integral equations.
- 487/587 LABORATORY PROJECTS** 1-3 credits
(May be repeated) Prerequisite: permission. Design of laboratory apparatus experiments, techniques or demonstrations.
- 488/588 SELECTED TOPICS: PHYSICS** 1-4 credits
(May be repeated) Prerequisite: permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics.
- 490/690 WORKSHOP** 1-4 credits
(May be repeated) Group studies of special topics in physics. May not be used to meet undergraduate or graduate major requirements in physics. May be used for elective credit only.
- 497/597 INDEPENDENT STUDY** 1-4 credits
(May be repeated) Prerequisite: permission. Further investigations of various selected topics in physics, under guidance of faculty member.

POLITICAL SCIENCE**3700:**

- 100 GOVERNMENT AND POLITICS IN THE UNITED STATES** 4 credits
Examination of American political system with emphasis on fundamental principles, ideas, institutions and processes of modern government. Lecture and discussion sections (day classes only).
- 120 CURRENT POLICY ISSUES** 3 credits
Survey of contemporary public policy issues by applying a broad conceptual framework. Cannot be used for credit toward major in political science.
- 201 INTRODUCTION TO POLITICAL RESEARCH** 3 credits
Introduction to the research process in political science through an introduction to the logic of social science inquiry and contemporary techniques of analysis.
- 210 STATE AND LOCAL GOVERNMENT AND POLITICS** 3 credits
Examination of institutions, processes and intergovernmental relations at state and local levels.
- 220 AMERICAN FOREIGN POLICY** 3 credits
Examination of American foreign policy-making process; public opinion and other limitations on policy; specific contemporary problems in selected areas.
- 300 COMPARATIVE POLITICS** 4 credits
Introduction to comparative political analysis; description of political systems of Great Britain, France, Germany and Soviet Union; contrast between democracy and totalitarianism.
- 301 ADVANCED POLITICAL RESEARCH** 3 credits
Prerequisite: 201 or permission of instructor. Study and practice of political science research methods. Data collection, statistical analysis and presentation of empirical research projects. Computer applications used.
- 302 AMERICAN POLITICAL IDEAS** 3 credits
Study of major thinkers and writers of American political thought.
- 303 INTRODUCTION TO POLITICAL THOUGHT** 3 credits
Survey of major ideas and concepts of Western political theory from pre-Socrates through period of Enlightenment.
- 304 MODERN POLITICAL THOUGHT** 3 credits
Examination of central concepts of political thought from 19th Century to present. Modern liberalism, communism, fascism and totalitarianism emphasized.
- 310 INTERNATIONAL POLITICS AND INSTITUTIONS** 4 credits
Relations among nations examined in political context.
- 311 DEVELOPING STATES IN WORLD POLITICS** 3 credits
Examines how developing states are conditioned by the global system and how they attempt to modify it.
- 312 THE POLITICS OF INTERNATIONAL TRADE AND MONEY** 3 credits
Prerequisite: 310 or permission of instructor. Examines trade and money as sources of international power; focuses on the evolution of the Bretton Woods monetary and GATT trade regimes.
- 320 BRITAIN AND THE COMMONWEALTH** 3 credits
Description and analysis of government and politics of Great Britain and leading nations of the Commonwealth.
- 321 WESTERN EUROPEAN POLITICS** 3 credits
Description and analysis of government and politics of France, Germany, Italy and Switzerland, with appropriate references to Scandinavia and Low Countries.
- 322 SOVIET AND EAST EUROPEAN POLITICS** 3 credits
Theory and practice of government and politics in Soviet Union; comparison with selected communist systems of Eastern Europe.
- 323 POLITICS OF CHINA AND JAPAN** 3 credits
Examination of governmental structures and political processes of China and Japan.
- 325 COMPARATIVE PUBLIC POLICY** 3 credits
Considers the formulation, decisions, implementation, impact of public policies in a comparative perspective. By examining public policies in a variety of countries the relationship of different economic and political systems to policy outcomes is observed.
- 326 POLITICS OF DEVELOPING NATIONS** 3 credits
General introduction to concepts and theories of political development and political institutions, elite-recruitment and political processes of selected emerging nations.
- 327 AFRICAN POLITICS** 3 credits
Examination of patterns of government and politics of nations south of Sahara.
- 330 CANADIAN POLITICS** 3 credits
An examination of the institutions and processes of Canadian government; a survey of some of the pressing issues confronting public decision makers in Canada.
- 341 THE AMERICAN CONGRESS** 3 credits
Examination of structure and function of Congress, with comparative materials on legislative process on all levels. Presidential and congressional conflict examined.
- 342 MINORITY GROUP POLITICS** 3 credits
Examination of political behavior of racial, religious and ethnic minority groups in the United States.
- 350 THE AMERICAN PRESIDENCY** 3 credits
The presidency as focal point of politics, policy and leadership in American political system.
- 360 THE JUDICIAL PROCESS** 3 credits
Role of police, lawyers, courts and judges in context of American political process. Structure and process of judicial policy making and limitations on judicial power.
- 361 POLITICS OF THE CRIMINAL JUSTICE SYSTEM** 3 credits
Examines the impact of the political process and political institutions on criminal law and policy.
- 370 PUBLIC ADMINISTRATION: CONCEPTS AND PRACTICES** 4 credits
Examines current administrative theories and their application in public bureaucracies. Emphasis is placed on practices to improve the quality of public sector administration.
- 380 URBAN POLITICS AND POLICIES** 4 credits
Examination of problems emerging from urban and regional complexes in the United States. Structure and processes of political decision making at this level analyzed.
- 381 STATE POLITICS** 3 credits
Analysis of the state political process in terms of its capacity to deal with a wide range of socioeconomic problems. Special emphasis on legislators, administrators, parties and interest groups.
- 382 INTERGOVERNMENTAL RELATIONS** 3 credits
An examination of the history, theory, contemporary activities of intergovernmental relations in the United States. Interactions of local, state federal units of government will be considered.
- 391 HONORS IN POLITICAL SCIENCE** 3 credits
Prerequisites: at least 17 credits and a 3.25 average in political science and permission of adviser.
- 392 SELECTED TOPICS IN POLITICAL SCIENCE** 1-3 credits
(May be repeated, but no more than three credits can be applied to major in political science) Topics of substantial current importance, specialized topics within political science or experimental courses.
- 395 INTERNSHIP IN GOVERNMENT AND POLITICS** 2-9 credits
(May be taken twice for a total of nine hours. No more than four credits may be applied toward major in political science.) Prerequisite: Three courses in political science at The University of Akron, 2.20 average in political science, and permission of instructor. Supervised individual placement with political office holders, party groups, governmental agencies, law firms and other organizations providing professional-level work.
- 397 INDEPENDENT STUDY** 1-4 credits
(May be repeated for a total of four credits) Prerequisites: senior standing, 3.00 grade-point average and permission of adviser.
- 402/502 POLITICS AND THE MEDIA** 3 credits
Examination of relationships between the press, the news media and political decision makers.
- 405/505 POLITICS IN THE MIDDLE EAST** 3 credits
The rise of the state system in the Middle East after World War I; an analysis of the socio-cultural, ideological forces influencing the political behavior of the people of the Middle East. In-depth study of selected political systems.
- 410/510 INTERNATIONAL DEFENSE POLICY** 3 credits
Prerequisite: At least one of the following: 220, 310; 3400:340, 360, 407, 408, or permission. Introduction to political uses of military forces. Major focus on methodological, conceptual, and ethical dilemmas confronted in developing and implementing defense policy.
- 411/511 THEORIES OF INTERNATIONAL POLITICAL ECONOMY** 3 credits
Prerequisite: 310 or permission of instructor. This course examines the predominant and competing theories of international political economy, including imperialism, world systems analysis, long-wave theory, neo-mercantilism, and neo-realism.
- 412/512 GLOBAL ENVIRONMENT POLITICS** 3 credits
Prerequisites: 300, 310 or permission of instructor. Examines the general dimensions of the global environmental challenge, including the roles played by technology and the structure of the world system.
- 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: 300 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: 300 or permission of instructor. Examination of patterns of government and politics in Latin American area.
- 440/540 PUBLIC OPINION AND POLITICAL BEHAVIOR** 4 credits
Prerequisite: 100 or 120 or permission. Nature and role of public opinion in political process; historical development, current methods of measurement. Political behavior of American electorate.
- 441/541 THE POLICY PROCESS** 3 credits
Prerequisites: eight credits in political science. Intensive study of policy-making process, emphasizing roles of various participants in executive and legislative branches as well as private individuals and groups.
- 442/542 METHODS OF POLICY ANALYSIS** 3 credits
Prerequisite: 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.
- 461/561 THE SUPREME COURT AND CONSTITUTIONAL LAW** 3 credits
Prerequisite: 100 or permission. Interpretation of the Constitution by the Supreme Court with emphasis on federal judicial, legislative and executive power; separation of powers; and federalism.
- 462/562 THE SUPREME COURT AND CIVIL LIBERTIES** 3 credits
Prerequisite: 100 or permission. Interpretation of the Constitution by the Supreme Court with emphasis on freedom of speech and press, freedom of religion, criminal rights and right to privacy.
- 470/570 CAMPAIGN MANAGEMENT** 3 credits
Prerequisite: Six credits of political science or permission. Reading, research and practice in campaign management decision making.
- 471/571 CAMPAIGN FINANCE** 3 credits
Prerequisite: six credits of political science or permission. Reading and research in financial decision making in political campaigns.
- 472/572 AMERICAN INTEREST GROUPS** 3 credits
Prerequisite: six credits of political science or permission. Reading and research on the development, structure and function of interest groups in the United States.
- 473/573 AMERICAN POLITICAL PARTIES** 3 credits
Prerequisites: six credits of political science or permission. Reading and research on the development, structure and function of parties in the United States.
- 480/580 POLICY PROBLEMS** 3 credits
(May be repeated for a total of six credits) Prerequisite: 380 or permission. Intensive study of selected problems in public policy.
- 490/590 WORKSHOP** 1-3 credits
(May be repeated) Group studies of special topics in political science. May not be used to meet undergraduate or graduate requirements in political science. Elective credit only.
- 497 SENIOR HONORS PROJECT IN POLITICAL SCIENCE** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission. Open only to a political science major in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

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.
- 105 PROFESSIONAL AND CAREER ISSUES IN PSYCHOLOGY** 1 credit
Corequisite: 100. An overview of the field of psychology including educational requirements, career opportunities and professional issues for students considering a psychology major.
- 110 QUANTITATIVE METHODS IN PSYCHOLOGY** 4 credits
Prerequisite or corequisite: 100. Presentation of data, descriptive statistics, correlation, hypothesis testing and introduction to statistical methodologies in psychology, including computer applications.
- 220 INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY** 4 credits
Prerequisites: 100 and 110 or instructor's permission. 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.
- 230 DEVELOPMENTAL PSYCHOLOGY** 4 credits
Prerequisite: 100. Determinants and nature of behavioral changes from conception to death.
- 240 INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY** 4 credits
Prerequisite: 100. Survey of applications of psychology in industry, business and government. Emphasis on understanding employees and evaluation of their behavior.
- 320 BIOPSYCHOLOGY** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Relationship between behavior and its biological/physiological foundations including brain structure and function, sensation, behavior genetics, learning and memory and other topics.
- 335 DYNAMICS OF PERSONALITY** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Overview of theory and research involving the development, maintenance and assessment of personality and individual differences.
- 340 SOCIAL PSYCHOLOGY** 4 credits
Prerequisites: 100 and four credits psychology or instructor's permission. Examination of individuals' responses to social environment. Social perception, attitude formation and change, affiliation and attraction, altruism, group processes and nonverbal behavior.
- 345 COGNITIVE PROCESSES** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Survey of the basic phenomena, concepts and theories in the areas of human perception, learning, memory and cognition.
- 400/500 PERSONALITY** 4 credits
Prerequisites: 100, 335 or instructor's permission. 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 aptitude and achievement tests, rating scales, attitude and opinion analysis.
- 420/520 ABNORMAL PSYCHOLOGY** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Survey of syndromes, etiology, diagnosis and treatment of major psychological conditions ranging from transient maladjustments to psychoses.
- 430/530 PSYCHOLOGICAL DISORDERS OF CHILDREN** 4 credits
Prerequisites: 100 and 230 or permission. Survey of syndromes, etiologies and treatments of behavioral disorders in children from standpoint of developmental psychology. Behavioral data and treatment approaches emphasized.
- 435 CROSS-CULTURAL PSYCHOLOGY** 4 credits
Prerequisites: 100 and four credits psychology or instructor's permission. Influence of culture and ethnicity upon development of individual psychological processes including functioning, identity, social motives, sex roles and values.
- 441 CLINICAL AND COUNSELING PSYCHOLOGY I** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Overview of the fields of clinical and counseling psychology including counseling and psychotherapeutic approaches, vocational counseling, assessment, research, training and professional issues.
- 442 CLINICAL AND COUNSELING PSYCHOLOGY II** 4 credits
Prerequisite: 441. Overview of individual counseling and psychotherapy, group counseling, personality and ability testing, marriage and family counseling, hypnosis, sex therapy, psychopharmacology and related specialties.
- 443/543 HUMAN RESOURCE MANAGEMENT** 4 credits
Prerequisites: 240 and a statistics course or instructor's permission. The application of psychological theory to the effective management of human resources in an organization, including recruitment, selection, training and retention of personnel.
- 444/544 ORGANIZATIONAL THEORY** 4 credits
Prerequisites: 240 or instructor's permission. The application of psychological theory to macro-level processes in organizations including leadership, motivation, task performance, organizational theories and development.
- 445/545 PSYCHOLOGY OF SMALL GROUP BEHAVIOR** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Intensive investigation of factors affecting behavior and performance in small groups including effects of personality, social structures, task, situational and social-cognitive variables.
- 446 RESEARCH DESIGN AND ANALYSIS** 4 credits
Prerequisites: 100, 110 and 220 or instructor's permission. Review of psychological methodology including research design and analysis, internal and external validity, measurement of constructs and specific analytic techniques.
- 450/550 COGNITIVE DEVELOPMENT** 4 credits
Prerequisite: 345 or instructor's permission. Theory and research on life-span changes in cognitive processes including concept formation/categorization, information processing and Piagetian assessment tasks.
- 460/560 HISTORY OF PSYCHOLOGY** 3 credits
Prerequisite: 100 and four credits of psychology or instructor's permission. Psychology in pre-scientific period and details of development of systematic viewpoints in 19th and 20th Centuries.

- 475 PSYCHOLOGY OF ADULTHOOD AND AGING** 4 credits
Prerequisites: 100 and 230 or instructor's permission. Psychological aspects of human development from adolescence to older adulthood 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.
- 485 APPLIED DEVELOPMENTAL PSYCHOLOGY** 4 credits
Prerequisites: 100 and four credits of psychology or instructor's permission. Covers conceptual and methodological issues dealing with implementation problems in life-span developmental psychology from a multidisciplinary and problem-focused approach.
- 488,9 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 undergraduate or graduate major requirements in psychology.
- 495 FIELD EXPERIENCE IN PSYCHOLOGY** 2-4 credits
(May be repeated. Minimum of four credits required for Psychology Technician Program). Prerequisites: 100, 110, 220, 230 or 240, 335 or 340, 410 and acceptance into the B.S. Psychology Technician Program and departmental permission. On-site supervised individual placements as a psychology assistant in appropriate community and institutional organizational settings.
- 497 INDEPENDENT READING, AND/OR RESEARCH IN PSYCHOLOGY** 1-3 credits
(May be repeated to a total of six credits). Independent reading and/or research in an area of psychology under the supervision and evaluation of a selected faculty member.

SOCIOLOGY**3850:**

- 100 INTRODUCTION TO SOCIOLOGY** 4 credits
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.
- 104 SOCIAL PROBLEMS** 3 credits
Prerequisite: 100 or permission. Analysis of selected contemporary problems in society; application of sociological concepts and research as tools for understanding sources of such problems. Lecture.
- 301 METHODS OF SOCIAL RESEARCH I** 3 credits
Prerequisites: 100 and 3450:111, 112, 113 or permission. Lecture/laboratory course (minimum of two laboratory hours per week). Research design and data-gathering techniques. Required of all majors except sociology/anthropology.
- 302 METHODS OF SOCIAL RESEARCH II** 3 credits
Prerequisite: 100 and 301 and 3450:111, 112, 113 (Sociology/anthropology majors are excused from the 301 prerequisite), or permission. Quantitative techniques and application to sociological data. Combination lecture and laboratory course requiring at least two laboratory hours per week. Required of majors. Lecture/laboratory.
- 315 SOCIOLOGICAL SOCIAL PSYCHOLOGY** 3 credits
Prerequisite: 100. The reciprocal influence of individuals and groups. How interpersonal processes produce and affect group structure. How groups affect the development and behavior of the social person.
- 320 SOCIAL INEQUALITY** 3 credits
Prerequisite: 100 or permission. Study of the way social rankings occur in societies and how particular rankings affect individual behavior, group relations and social structures. Lecture.
- 321 POPULATION** 3 credits
An introduction to world and national population trends, related demographic and social characteristics. Topics include fertility, mortality, morbidity, migration, abortion, birth control, population policy in relation to societal problems. Lecture.
- 323 SOCIAL CHANGE** 3 credits
Prerequisite: 100 or permission. Introduction to theories and processes of social change, dimensions of change in contemporary, traditional and urban-industrial societies; projection and prediction of selected trends and forms. Lecture.
- 324 SOCIAL MOVEMENTS** 3 credits
Prerequisite: 100 or permission. Social movements as distinguished from other forms of collective behavior; analysis of social situations which produce social movements; focus on development of social movements and their role in social change. Lecture.
- 330 CRIMINOLOGY** 3 credits
Prerequisite: 100. Major focus on interrelationships and analysis of crimes, criminals, criminal justice systems and society. Lecture.
- 334 SOCIAL ORGANIZATION** 3 credits
Prerequisite: 100 or permission. Nature of social organization, social control; organizational typologies; theories of organizational structure, functions; analysis of complex organizations in a social system. Lecture.
- 335 SOCIAL BEHAVIOR IN ORGANIZATIONS** 3 credits
Prerequisite: 100 or permission. Analysis of the structure of such complex organizations as voluntary associations, business organizations and public bureaucracies, in relation to issues including organizational effectiveness, organizational design and change, job satisfaction and quality of work experience. Lecture.
- 336 SOCIOLOGY OF WORK AND OCCUPATIONS** 3 credits
Prerequisite: 100 or permission. Survey of theory and empirical research in areas such as the structure of occupations and professions, occupational attainment, work force characteristics, work values and orientations, the nature of work. Lecture.
- 340 THE FAMILY** 3 credits
Prerequisite: 100 or permission. Analysis of family as a social system; historical, comparative and contemporary sociological approaches examined in relation to family structure and functions. Lecture.

- 341 POLITICAL SOCIOLOGY** 3 credits
Prerequisite: 100 or permission. Survey of theory and empirical research dealing with relationship between political phenomena and the larger network of social processes in human societies. Lecture.
- 342 SOCIOLOGY OF HEALTH AND ILLNESS** 3 credits
Prerequisite: 100 or permission. General survey of sociological perspectives, concepts and research on health, illness and health-care delivery systems. Lecture.
- 343 THE SOCIOLOGY OF AGING** 3 credits
Prerequisite: 100 or permission. Examination of process of aging from perspective of behavioral and sociological aspects. Lecture.
- 344 THE SOCIOLOGY OF SEX ROLES** 3 credits
Prerequisite: 100 or permission. Examination of differentiation in roles, behaviors in women, men including theory, evidence on origins and determinants of differences, on stability and change in sex roles.
- 345 FAMILY AND HEALTH** 3 credits
Prerequisites: 100 or permission. Survey of interrelationships between family structure and functioning and the health care system. Includes historical perspectives as well as current conditions.
- 385 SPECIAL TOPICS IN SOCIOLOGY** 1-3 credits
(May be repeated) Prerequisite: permission. Special topics of interest to sociology major and non-major not covered in regular course offerings.
- 397 SOCIOLOGICAL READINGS AND RESEARCH** 1-3 credits
Prerequisite: permission. Individual study of problem area of specific interest to individual student under guidance of department member. Preparation of a research paper.
- 403/503 HISTORY OF SOCIOLOGICAL THOUGHT** 3 credits
Prerequisite: 100 or permission. Examination of major scholars in the classical sociological tradition. Lecture.
- 404/504 CONTEMPORARY SOCIOLOGICAL THEORIES** 3 credits
Prerequisite: 403 or permission. Examination and critical evaluation of works of modern sociological theorists, emphasizing current theoretical approaches to issues of social order and social change. Lecture.
- 410/510 SOCIAL STRUCTURES AND PERSONALITY** 3 credits
Prerequisite: 100 or permission. Interrelationships between position in society, personality characteristics. Personality treated as both result and determinant of social structure and process. Lecture.
- 411/511 SOCIAL INTERACTION** 3 credits
Prerequisite: 100 or permission. Intensive study of advanced theory and research in social psychology, particularly how social interaction and self-conception affect one another. Lecture.
- 412/512 SOCIALIZATION: CHILD TO ADULT** 3 credits
Prerequisite: 100 or permission. Theoretical and empirical analyses of process by which infant, child, adolescent and adult learn social and cultural requirements necessary to function in new roles, changing roles and society in general.
- 421/521 RACIAL AND ETHNIC RELATIONS** 3 credits
Prerequisite: 100 or permission. Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture.
- 423/523 SOCIOLOGY OF WOMEN** 3 credits
Prerequisites: 100 or permission of instructor. Examination of research and theories pertaining to women's status in society, including economic conditions, the relationship between structure and experience, and other gender-related issues.
- 425/525 SOCIOLOGY OF URBAN LIFE** 3 credits
Prerequisite: 100 or permission. Emergence and development of urban society. Examination of urban social structure from neighborhood to metropolis, the problems and prospects. Emphasis on various life styles of urban subcultures. Lecture/discussion.
- 428/528 THE VICTIM IN SOCIETY** 3 credits
Prerequisites: 100 or permission of instructor. Study of the nature, causes, and consequences of victimization with special focus on crime victimization.
- 429/529 PROBATION AND PAROLE** 3 credits
Prerequisite: 330 or 430 or permission. Analysis of how probationers and parolees are selected, supervised and then released into private life. Emphasis on current and past social research. Lecture/discussion.
- 430/530 JUVENILE DELINQUENCY** 3 credits
Prerequisite: 100 or permission. Analysis of social structure and process from which delinquency develops. Emphasis on current and past research. Lecture/discussion.
- 431/531 CORRECTIONS** 3 credits
Prerequisite: 330 or 430. Theories, belief systems, correctional practices and effectiveness as related to offender groups. Lecture/discussion/field experience.
- 433/533 SOCIOLOGY OF DEVIANT BEHAVIOR** 3 credits
Prerequisites: 100 and at least six additional credits of sociology courses or permission. Survey of theories of deviant behavior and relevant empirical research. Special emphasis given to interaction processes and social control. Lecture.
- 440/540 SOCIOLOGY OF RELIGION** 3 credits
Prerequisite: 100 or permission. Study of forms of religion and their social functions with emphasis on religion in American society. Lecture.
- 441/541 SOCIOLOGY OF LAW** 3 credits
Prerequisites: 100 and at least six additional credits of sociology courses or permission. Social origins and consequences of law and legal processes. Emphasis on uses of law, social change and aspects of legal professions. Lecture.
- 442/542 SOCIOLOGY OF EDUCATION** 3 credits
Prerequisite: 100 or permission. Analysis of education from an organizational and social psychological perspective. Topics include: desegregation; busing; neighborhood schools; impact of family, peers and teachers on learning; school organization. Lecture.
- 443/543 INDUSTRIAL SOCIOLOGY** 3 credits
Prerequisite: six credits of sociology or industrial management. Comparison of formal and informal structures in industrial organizations; analysis of work roles and status systems; communication processes; relation of work plant to community and society. Lecture.

- 444/544 SOCIAL ISSUES IN AGING** 3 credits
Prerequisite: 100 or permission. A look into the major issues and problems facing older persons. Special attention is given to the unmet needs of the elderly as well as an examination of current societal policy and programs to meet these needs.
- 450/550 SOCIOLOGY OF MENTAL ILLNESS** 3 credits
Prerequisite: 100 or permission. The social history of the mental hospital, theories and epidemiology of mental illness, community-based treatment models, the organization of mental health services, the role of personal social networks and mutual support groups.
- 494/594 WORKSHOP IN SOCIOLOGY** 1-3 credits
(May be repeated) Group studies of special topics in sociology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.
- 495 RESEARCH INTERNSHIP** 2-4 credits
(May be repeated for credit) Prerequisites: 301, 302 and permission of a faculty supervisor. Placement in selected community organization for supervised experience in all phases of a social research project. Student must receive permission from instructor during semester prior to enrollment.
- 496 SENIOR HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: enrollment in Honors Program and senior standing, and major in sociology or sociology/anthropology. Thesis or original creative work appropriate to student's area of interest. Requirements and evaluation of project determined by departmental honors preceptor and student's honors project adviser.

ANTHROPOLOGY

3870:

- 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; human variation; Old World archaeology. Lecture.
- 270 CULTURES OF THE WORLD** 3 credits
Prerequisite: 150 or permission of instructor. An examination of diversity in pre-industrial cultures; the ways in which cultures differ and the major processes which produce cultural differences.
- 355 INDIANS OF SOUTH AMERICA** 3 credits
Prerequisite: 150 or 3850:100 or permission. Survey of aboriginal peoples of South America, with emphasis on culture areas and continuity of culture patterns. Lecture.
- 356 ARCHAEOLOGY OF THE AMERICAS** 3 credits
Prerequisite: 150 or 3850:100 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
Prerequisite: 150 or 3850:100. Analysis and discussion of the data concerning the origins, roles and functions of magic and religion in a broad range of human societies, with emphasis on the non-Western, pre-industrial societies. Examination of belief and ritual systems of such societies.
- 358 INDIANS OF NORTH AMERICA** 3 credits
Prerequisite: 150 or permission. Ethnographic survey of native cultures of North America, with emphasis on variations in ecological adaptations, social organization and modern American Indians in anthropological perspective. Lecture.
- 397 ANTHROPOLOGICAL RESEARCH** 1-3 credits
(May be repeated) Prerequisite: permission. Individual study of problem areas of specific interest to an individual student under guidance of a faculty member.
- 405/505 HISTORY AND THEORY IN ANTHROPOLOGY** 3 credits
Prerequisite: 150 or permission. Survey of theories and problems in social and cultural anthropology. Historical development, methods of inquiry and contemporary theoretical perspectives.
- 455/555 CULTURE AND PERSONALITY** 3 credits
Prerequisite: 150 or permission. Examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.
- 457/557 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.
- 461/561 LANGUAGE AND CULTURE** 3 credits
Prerequisite: 150 or permission. Examination of language structure and interaction of language, cognition and culture. Lecture.
- 463/563 SOCIAL ANTHROPOLOGY** 3 credits
Prerequisite: 150 or permission. Comparative structural analysis of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households and other kinship groupings. Lecture.
- 472/572 SPECIAL TOPICS: ANTHROPOLOGY** 3 credits
(May be repeated) Prerequisites: 150 and permission. Designed to meet needs of student with interests in selected topics in anthropology. Offered irregularly when resources and opportunities permit. May include archaeological field school, laboratory research or advanced course work not presently offered by department on regular basis.
- 494/594 WORKSHOP IN ANTHROPOLOGY** 1-3 credits
(May be repeated) Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.

College of Engineering

GENERAL ENGINEERING

4100:

- 101 TOOLS FOR ENGINEERING** 3 credits
Corequisite: 3450:221. Introduction to engineering. Free hand, engineering, and CAD drawing. Introduction to computer programming, computer applications including word processing, spreadsheets, data base. Introduction to engineering economics. Required for Chemical, Civil, and Electrical Engineering majors.
- 180 ENGINEERING DESIGN** 1 credit
Introduction of freshman engineering student to problem-solving techniques in engineering design. Required of all entering engineering freshmen in Evening College.
- 201 ENERGY AND ENVIRONMENT** 2 credits
Interactions between energy production, consumption and environment. Case studies. Not for engineering, chemistry or physics majors.
- 202 ATMOSPHERIC POLLUTION** 2 credits
Causes of atmospheric pollution and technical economic and social problems. Technical solutions. Case studies. Not for engineering, chemistry or physics majors.
- 203 ENVIRONMENTAL SCIENCE AND ENGINEERING** 3 credits
Science and engineering fundamentals required to understand environmental issues and alternative solutions. Not for engineering, chemistry, or physics majors.
- 206 FORTRAN (SCIENCE/ENGINEERING)** 2 credits
Prerequisite: 2020:334 or 3450:221. Introduction to use of digital computers in scientific and engineering applications. For student majoring in engineering or physical sciences. No credit for person having completed 3460:201.
- 300 COOPERATIVE EDUCATION WORK PERIOD** 0 credit
Elective for cooperative education student who has completed sophomore year. Practice in industry and comprehensive written reports of this experience.
- 301 COOPERATIVE EDUCATION WORK PERIOD** 0 credit
Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered spring semester of third year.
- 302 COOPERATIVE EDUCATION WORK PERIOD** 0 credit
Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.
- 403 COOPERATIVE EDUCATION WORK PERIOD** 0 credit
Required for cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered summer after fourth year.

CHEMICAL ENGINEERING

4200:

- 121 CHEMICAL ENGINEERING COMPUTATIONS** 2 credits
Prerequisites: 101 or permission. Computer programming language, flowcharting, introductory simulation and introductory numerical analysis.
- 200 MATERIAL AND ENERGY BALANCES** 4 credits
Prerequisites: 121, 4100:206, 3450:221 and 3150:134. Introduction to material, energy balance calculations applied to solution of chemical problems.
- 225 EQUILIBRIUM THERMODYNAMICS** 4 credits
Prerequisites: 200 and 3450:222. Second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids. Phase and chemical equilibria, flow processes, power production and refrigeration processes covered.
- 305 MATERIALS SCIENCE** 2 credits
Prerequisites: 3150:133 and 3650:292 and junior standing. Structure, processing and properties of metals, ceramics and polymers. Special topics, such as composites, corrosion and wear.
- 321 TRANSPORT PHENOMENA I** 3 credits
Prerequisites: 200 and 3450:222. Constitutive equations for momentum and energy transfer. Development 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
Prerequisite: 321. Constitutive equations for mass transfer. Development of microscopic and macroscopic momentum, energy and mass transfer equations for binary systems. Problems and applications in unit operations of chemical engineering.
- 330 CHEMICAL REACTION ENGINEERING** 3 credits
Prerequisite: 225. Nonequilibrium processes including chemical reaction mechanisms, rate equations and ideal reactor design applied to homogeneous and heterogeneous systems.
- 351 FLUID AND THERMAL OPERATIONS** 3 credits
Prerequisite: 321. Applications of fluid-mechanics including piping, pumping, compression, metering, agitation and separations. Applications of heat transfer by conduction, convection and radiation to design of process equipment.
- 352 TRANSPORT LABORATORY** 2 credits
Prerequisites: 322 and 351. Experiments in fluid, heat and mass transfer. Data collection, analysis and reporting in various formats. Relationships to theory emphasized.
- 353 MASS TRANSFER OPERATIONS** 3 credits
Prerequisites: 225, 351 and 322. Theory and design of staged operations including distillation, extraction, absorption. Theory and design of continuous mass transfer devices.

- 408 POLYMER ENGINEERING** 3 credits
Prerequisite: permission or senior standing. Commercial polymerization, materials selection and property modification, polymer processing, applied rheology and classification of polymer industry.
- 435 PROCESS ANALYSIS AND CONTROL** 3 credits
Prerequisites: 330, 353. Response of simple and chemical processes and design of appropriate control systems.
- 441 PROCESS ECONOMICS AND DESIGN** 4 credits
Prerequisites: 330, 351, 353. Economic evaluation of chemical plants including justification, profitability, capital investment and operating costs. Design of chemical process equipment.
- 442 PLANT DESIGN** 4 credits
Prerequisite: 441. Integration of process and equipment design for a total plant including justification, site selection and plant layout. Culminates with a case study or A.I.Ch.E. Student Contest Problem.
- 454 OPERATIONS LABORATORY** 1 credit
Prerequisites: 352, 353. Comprehensive experiments and analysis in combined heat and mass transfer, thermodynamics and reaction kinetics. Comprehensive reports.
- 461/561 SOLIDS PROCESSING** 3 credits
Prerequisites: 321 and 353 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving mechanics of particulate solids in liquid and gas continua.
- 463/563 POLLUTION CONTROL** 3 credits
Prerequisite: 353 or permission. Air and water pollution sources and problems. Engineering aspects and methodology.
- 466/566 DIGITIZED DATA AND SIMULATION** 3 credits
Prerequisite: permission. Data acquisition and analysis by digital devices, digital control applications and design.
- 470/570 ELECTROCHEMICAL ENGINEERING** 3 credits
Prerequisites: 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 polarizations, Faraday's Laws, electrode kinetics, transport processes in electrochemical systems, current distributions, reactor design, experimental methods, commercial processes, and batteries and fuel cells.
- 496 TOPICS IN CHEMICAL ENGINEERING** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques.
- 497 HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: special permission. Individual creative project pertinent to chemical engineering culminating in undergraduate thesis, supervised by faculty member of the department.
- 499 RESEARCH PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required.

CIVIL ENGINEERING

4300:

- 130 INTRODUCTION TO ENGINEERING** 0 credit
Introduction to civil engineering for freshman engineering student. Tasks and opportunities of civil engineer. Introduction to engineering problem-solving techniques. Required of all civil engineering freshmen.
- 201 STATICS** 3 credits
Corequisites: 3450:222 and 3650:291. Forces, resultants, couples; equilibrium of force systems; distributed forces; centers of gravity; analysis of simple structures; moments of inertia; kinematics.
- 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 shearing stress; compound stresses; indeterminate beams; columns.
- 230 SURVEYING** 3 credits
Basic tools and computations for surveying: measurement of distance elevation and angles; traverse surveys. Laboratory field practice.
- 306 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. Stresses, displacements, volume changes, consolidation within a soil mass. Soil strength. Compaction.
- 314 GEOTECHNICAL ENGINEERING** 3 credits
Prerequisite: 313. Limiting equilibrium within a soil mass. Design of retaining walls, bulkheads, shallow, deep foundation systems. Slope stability. Laboratory study of soil properties and behavior.
- 323 WATER SUPPLY AND POLLUTION CONTROL** 4 credits
Prerequisites: 3150:133, 4600:310. Water and wastewater characteristics, criteria, quantities and distribution. Water and wastewater treatment process flowsheets, design and operation. Wastewater and residue disposal.
- 341 HYDRAULIC ENGINEERING** 3 credits
Prerequisite: 4600:310. Flow in pipelines and pipe networks, pumps and pumping stations, seepage, elements of hydrology, flow in open channels, design of hydraulic structures, water resources engineering.
- 361 TRANSPORTATION ENGINEERING** 3 credits
Prerequisite: junior standing. Introductory survey of transportation topics including transportation planning requirements and techniques, introduction to design of highways, airports and railroads and introduction to traffic engineering.

- 380 ENGINEERING MATERIALS LABORATORY** 2 credits
Prerequisite: 202. Study of laboratory instrumentation and standard techniques in testing of engineering materials. Data analysis.
- 401 STEEL DESIGN** 3 credits
Prerequisite: 306. Tension, compression members; openweb joists; beams; bearing plates; beam-columns; bolted, welded connections.
- 403 REINFORCED CONCRETE DESIGN** 3 credits
Prerequisite: 306. Ultimate strength analysis and design; compression steel; diagonal tension; stirrups; development length; one-way slab; T-beams; two-way slabs; columns; isolated and combined footings.
- 404 ADVANCED STRUCTURAL DESIGN** 3 credits
Prerequisites: 401, 403. Composite design; plate girders; plastic design; cantilever retaining walls; torsion in R/C members; deflection of R/C members; continuous girder bridge design.
- 407 ADVANCED STRUCTURAL ANALYSIS** 3 credits
Prerequisite: 306. Energy methods for beams and frames. Stiffness and flexibility formulations for framed structures using classical and matrix methods. Introduction to stability and plastic analysis. Warping-torsion behavior of beams. Analysis of axisymmetric circular plates and membrane shells.
- 414/514 DESIGN OF EARTH STRUCTURES** 3 credits
Prerequisite: 314 or permission. Design of earth structures: dams, highway fills, cofferdams, etc. Embankment construction techniques, quality control, embankment analysis, instrumentation, foundation soil stabilization, seepage analysis and control. Design problem. Graduate students will perform more advanced analysis and design.
- 418/518 SOIL AND ROCK EXPLORATION** 3 credits
Prerequisite: 314 or permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radioactive measurements. Air photo interpretation.
- 424 WATER-WASTEWATER LABORATORY** 1 credit
Corequisite: 323 or permission. Analysis of water and wastewater.
- 426/526 ENVIRONMENTAL ENGINEERING DESIGN** 3 credits
Prerequisite: 323. An introduction to the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized.
- 427/527 WATER QUALITY MODELING AND MANAGEMENT** 3 credits
Prerequisite: 323. Analysis and simulation of the physical, chemical and biochemical processes affecting stream quality. Development of management strategies based upon the application of water quality modeling techniques to environmental systems.
- 428/528 HAZARDOUS AND SOLID WASTES** 3 credits
Prerequisite: senior standing or permission of instructor. Hazardous and solid waste quantities, properties and sources are presented. Handling, processing, storage and disposal methods are discussed with non-technical constraints outlined.
- 441 HYDRAULIC DESIGN** 3 credits
Prerequisite: 341. Collection and critical evaluation of hydraulic data related to actual design problem selected by instructor. Development and analysis of design alternatives. Preparation of reports.
- 443/543 APPLIED HYDRAULICS** 3 credits
Prerequisite: 341. Review of design principles: urban hydraulics, steam channel mechanics, sedimentation, coastal engineering.
- 445 HYDROLOGY** 3 credits
Prerequisite: 341. Surface water hydrology, water cycle, precipitation, evaporation, stream flow. Principles of hydrologic systems and their analysis. Hydrologic simulation, reservoir planning and water supply studies. Analysis of rainfall and floods.
- 448 HYDRAULICS LABORATORY** 1 credit
Prerequisite: 341. Introduction to laboratory and field devices for hydraulic measurements. Reduction and presentation of hydraulic data. Individual assignments of model studies of hydraulic structures.
- 450 URBAN PLANNING** 2 credits
Historical developments in urban planning; urban planning techniques and patterns; comprehensive master planning studies; planning regulations; design problems; class projects; class project presentation.
- 451/551 MATRIX ANALYSIS OF STRUCTURES** 3 credits
Prerequisite: 306 or equivalent. Review of matrix algebra, structural analysis concepts. Stiffness formulation of bars, beams, frames. Solution of linear algebraic equations. Computer program implementation, application.
- 452 STRUCTURAL VIBRATIONS AND EARTHQUAKES** 3 credits
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. Elastic-plastic systems. Earthquake analysis of design. Earthquake codes.
- 453/553 OPTIMUM STRUCTURAL DESIGN** 3 credits
Prerequisite: 306. Basic concepts in structural optimization. Mathematical programming methods including unconstrained minimization, multidimensional minimization and constrained minimization.
- 454/554 ADVANCED MECHANICS OF MATERIALS** 3 credits
Prerequisite: 202 or equivalent. Three-dimensional state of stress and strain analysis. Unsymmetric bending of straight and curved members with shear deformation. Beams on elastic foundations. Saint Venant's torsional problems. Inelastic analysis of bending and torsional members. Introduction to energy method. Instability behavior of prismatic members.
- 463/563 TRANSPORTATION PLANNING** 3 credits
Prerequisite: 361. Theory and techniques for development, analysis and evaluation of transportation system plans. Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.
- 464/564 HIGHWAY DESIGN** 3 credits
Prerequisite: 361. Study of modern design of geometrical and pavement features of highways. Design problem and computer use. Graduate students will produce a more complete design.
- 465/565 PAVEMENT ENGINEERING** 3 credits
Prerequisite: 361. Theories of elasticity, of viscoelasticity and of layered systems as applied to pavements. Pavement materials characterization; pavement design, pavement restoration for rigid and flexible pavements.
- 466/566 TRAFFIC ENGINEERING** 3 credits
Prerequisite: 361. Vehicle and urban travel characteristics, traffic flow theory, traffic studies, accidents and safety, traffic signs and marking, traffic signal planning, traffic control and transportation administration.

- 468/568 HIGHWAY MATERIALS** 3 credits
Prerequisites: 361, 380 or permission. Properties of aggregates, manufacture and properties of portland cement concrete, properties of asphaltic materials, design and testing of hot mix asphalt pavement mixes and of surface treatments. Laboratory preparation of specimens and determination of properties. Graduate student requirement: Graduate students will be required to perform an additional eight-hour asphalt laboratory (Absorb recovery of asphalt from solution) and to prepare a paper on a highway materials topic.
- 471 CONSTRUCTION ADMINISTRATION** 3 credits
Prerequisite: senior standing or permission. Organization for construction, construction contracts, estimating, bidding, bonds and insurance. Construction financial management and supervision of construction, scheduling using critical path method.
- 472 CONSTRUCTION ENGINEERING** 3 credits
Prerequisite: senior standing or permission. Construction equipment selection and management. Techniques of various engineering construction operations including blasting, tunnelling, concrete framework and dewatering.
- 473 CONSTRUCTION MATERIALS** 2 credits
Prerequisites: 380, 4200-305. Composition, structure and mechanical behavior of structural materials such as concrete, wood, masonry, plastics and composite materials. Discussion of applications and principles of evaluating material properties.
- 474/574 UNDERGROUND CONSTRUCTION** 2 credits
Prerequisite: 314. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.
- 480 RELIABILITY-BASED DESIGN** 3 credits
Prerequisite: 3470/261 and senior standing. Probability concepts in civil engineering. Risk analysis and reliability based design.
- 481 CIVIL ENGINEERING SYSTEMS** 2 credits
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.
- 482 SPECIAL PROJECTS** 1-3 credits
Prerequisites: senior standing and permission. Directed individual or group research or study in student's field of interest. Topic subject to approval by adviser.
- 497 HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. Individual creative project or design relevant to civil engineering, supervised by faculty member of the department.

ELECTRICAL ENGINEERING 4400:

- 231 CIRCUITS I** 3 credits
Prerequisite: 3650/291; corequisite: 3450/223. Fundamentals of circuit analysis including loop and nodal methods, phasor techniques, resonance, polyphase circuits and magnetic coupling in circuits.
- 232 CIRCUITS II** 3 credits
Prerequisite: 231; corequisite: 3450/235. Network theorems, Fourier methods, transfer functions. Laplace and Fourier transforms and their use in analyzing dynamic operation of circuits.
- 243 SIGNAL ANALYSIS** 3 credits
Prerequisite: 231. Corequisite: 232, 3450/235. Basic concepts of convolution, impulse and step responses, Laplace transforms, Fourier series, Fourier transforms, Bode diagrams, difference and differential equations.
- 320 BASIC ELECTRICAL ENGINEERING** 4 credits
Prerequisite: junior standing in engineering; corequisite: 3450/235. Covers fundamental aspects of electrical circuits, electronics and electrical machinery. Not open to an electrical engineering major.
- 333 DISCRETE-TIME SYSTEMS** 3 credits
Prerequisite: 232, 3450/235, 4100/206. Introduction to the analysis and design of discrete-time linear systems. System simulations, classical solutions, Z-transform solutions, convolution techniques, matrices, state-variable methods, and digital filters are included.
- 334 ACTIVE CIRCUITS** 3 credits
Prerequisite: 333. Applications of operational amplifiers including bilinear transfer functions, scaling, cascade design, biquad circuits, lowpass, high pass, bandpass-filters, Chebyshev response, sensitivity, delay filters, frequency transformations, ladder design, simulated element design, leapfrog simulation and switched-capacitors.
- 340 ELECTRIC CIRCUITS LABORATORY** 1 credit
Prerequisite: 231. To develop practical skills in electronic circuits. Experiments will involve analysis and measurement of circuits which will illustrate circuit theory concepts.
- 344 INSTRUMENTATION** 3 credits
Prerequisites: 343, 362. Analysis and characteristics of transducers, indicating instruments and recorders used in electrical measurements.
- 353 ELECTROMAGNETICS** 4 credits
Prerequisite: 231, 3450/223 or permission. Vector analysis. Electrostatics: electrostatic field, scalar potential, dielectrics, boundary-value problems. Magnetostatics: magnetic circuits. Maxwell's equations: Faraday's law, time-harmonic fields. Introduction to plane waves.
- 354 ELECTROMAGNETICS II** 3 credits
Theory and application of transmission lines: transient and steady-state waves. Plane EM waves: propagation, reflection, and refraction. Waveguides open and closed-boundary guiding structures.
- 360 PHYSICAL ELECTRONICS** 3 credits
Prerequisite: 232. Corequisite: 363. PN junction, diffusion, tunneling, FET and BJT device physics, equivalent circuits for electronic devices, time and frequency analysis, biasing and logic families.
- 361 ELECTRONIC DESIGN** 4 credits
Prerequisites: 333,360. Power amplification, feedback, oscillators, linear integrated circuits, modulation and demodulation circuits.
- 363 SWITCHING AND LOGIC** 4 credits
Prerequisites: 232, 343. Analysis of computer circuits. Introduction to use of Boolean algebra and mapping techniques in analyzing switching circuits. Sequential circuits.

- 365 MICROPROCESSOR SYSTEM** 3 credits
Prerequisite: 363. Consideration of microcomputer hardware and software components. Microprocessor and peripheral devices. Instructions set of selected microprocessor. Introduction to microcomputer software.
- 371 CONTROL SYSTEMS I** 3 credits
Prerequisite: 333. Introduction to servomechanisms and feedback. Modeling and response of feedback control systems. Stability of linear systems. Experiments include analog simulation and basic servomechanism.
- 380 ILLUMINATION** 2 credits
Fundamentals of illumination and principles underlying specifications and design for adequate electrical lighting.
- 381 ENERGY CONVERSION** 3 credits
Prerequisites: 231 and 353. Nonelectrical to electrical energy conversions and vice versa: thermal, chemical, solar. Fundamentals of electromechanical energy conversion. Principles of operation of transformers, commutator machines, induction and synchronous machines.
- 385 ENERGY CONVERSION LAB** 2 credits
Prerequisite: 381. Theoretical background and practical skills in machines measurements. Steady and transient states in transformers and machines recording and analysis. External characteristics of sources.
- 387 ADVANCED MACHINERY** 3 credits
Prerequisite: 386. d-q transformation. Reactance of synchronous machines. Parallel operation of transformers. Synchronous-induction motors. Machine saturation and harmonics.
- 391 PROBLEMS** 1-3 credits
(May be taken more than once) Prerequisite: permission of department head. Select comprehensive problems, supervised discussions and computation periods.
- 421/521 ENGINEERING ECONOMY** 2-3 credits
Prerequisites: 3250.244 and senior standing in engineering. Presents engineering economics as distinguished from classical economic theory.
- 445 ANALOG COMMUNICATION** 3 credits
Prerequisites: 243, 333, 362. Introduction to analog communication systems; amplitude, frequency, phase modulation; modulators, demodulators; noise and signal-to-noise ratio calculation; sampling; pulse modulation.
- 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.
- 449/549 DIGITAL COMMUNICATION** 3 credits
Prerequisite: 445. Introduction to digital communication theory and systems; coding of analog and digital information; digital modulation techniques. Introduction to information theory.
- 452 INTRODUCTION TO LASERS** 3 credits
Prerequisites: 333, 353. Introduction to basic concepts of maser (laser) action; emission processes and their roles in laser action; types of lasers; presentation of generalized operating criteria.
- 453/553 ANTENNA** 3 credits
Prerequisites: 353 or equivalent. Transmitting and receiving antenna parameters, reciprocity theorem, mutual coupling, method of images. Theory of antenna arrays. Various forms of wire and aperture antennas.
- 455/555 MICROWAVES** 4 credits
Prerequisites: 353, 359. Dynamic fields, Maxwell's equation and wave equations. Field analysis of wave guides, microwave components, techniques and systems.
- 461 PHYSICS OF ELECTRONIC DEVICES** 3 credits
Prerequisites: 3650.301, 353, 362. Physics of semiconductors. Band theory, energy distribution and electron transport. P-n junctions. BJT and FET devices. Electron emission and ballistics, gaseous discharge, dielectric and magnetic materials. Device modeling.
- 464 PULSE ELECTRONICS** 4 credits
Prerequisites: 333, 362. Waveshaping circuits, nonsinusoidal waveform generation and relaxation circuits. Pulse transformers. Application of pulse and switching circuits.
- 465/565 COMPUTER CIRCUITS** 4 credits
Prerequisite: 363. Electronic circuitry considerations in logic circuits; methods of sequential, threshold logic analysis, synthesis; development of computer arithmetic elements; memory, storage devices.
- 470 MICROPROCESSOR INTERFACING** 3 credits
Prerequisites: 362, 363. Microprocessor structure, Bus Interface. Digital controller devices and their relationship to both the microcomputer and physical environment.
- 472/572 CONTROL SYSTEMS II** 4 credits
Prerequisite: 371. State variable analysis, design of control systems. Discrete systems, analysis, digital computer control. Experiments include hybrid, AC control system, digital computer control.
- 480/580 SYMMETRICAL COMPONENTS** 3 credits
Prerequisite: 381. Per unit method as applied to power system calculations. Fundamental principles of symmetrical components as applied to analysis of electrical circuits and machines.
- 481 MODERN POWER SYSTEMS** 3 credits
Prerequisite: 381. Introduction to electricity utility load flow, faulty analysis, stability, surge protection and relaying.
- 482 INDUSTRIAL POWER SYSTEMS** 3 credits
Prerequisite: 381. Introduction to industrial power systems. Local generation, power factor correction, conductor selection code requirements, coordination of protective devices.
- 483/583 POWER ELECTRONICS I** 3 credits
Elements of power electronics circuits. Rectifiers, converters, inverters analysis and design.
- 484/584 POWER ELECTRONICS LABORATORY AND DESIGN PROJECT** 2 credits
Prerequisite: 483/583 or equivalent. Experiments on different types of power electronic converters: AC/DC, DC/DC, DC/AC, and AC/AC. Design project to include design, simulation, building, and testing of a power electronic circuit.
- 485/585 ELECTRIC MOTOR DRIVES** 3 credits
Prerequisite: 381. Application of electric machines, choice of motor for particular drive. Application of power semiconductor circuits in electric machinery.
- 497 HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. Individual creative project or design relevant to electrical engineering, supervised by faculty member of the department.

- 498/598 TOPICS IN ELECTRICAL ENGINEERING** 1-2 credits
(May be taken more than once) Prerequisite: permission of department head. Special topics in electrical engineering.

ENGINEERING COMPUTER SCIENCE

4450:

- 208 PROGRAMMING FOR ENGINEERS** 3 credits
Prerequisite: 4100.101 or permission. Software design cycle. Introduction to computer organization and assemblers. Compared syntax and use of high level languages for systems software. Required for Electrical Engineering majors.
- 410 COMPUTER METHODS** 3 credits
Prerequisites: 4100.206 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.
- 420/520 SOFTWARE ENGINEERING** 3 credits
Prerequisites: 3460.209 and instructor's permission. Software life cycle. Specification, design and implementation of team projects.
- 432 SYSTEM SIMULATION** 3 credits
Prerequisite: 410. Principles of modeling and simulation of discrete and continuous time models, using FORTRAN and S/360 CSMP. Discrete event models and GPSS, SIMSCRIPT.
- 441 EXPERT SYSTEMS IN ENGINEERING** 3 credits
Prerequisite: any computer programming course. Introduction to expert systems, characteristics of major expert system categories and building expert systems using course software.
- 470/570 INTEGRATED SYSTEM DESIGN** 3 credits
Prerequisite for 470: 4400.465. Prerequisite for 570: 4400.565. Introduction to computer structures, design methods and development tools for VLSI systems. nMOS devices and fabrication. Processing and control design. Layout methods and tools. Design systems.
- 497/597 SPECIAL TOPICS: COMPUTER SCIENCE** 1-2 credits
(May be taken more than once) Prerequisite: permission of department head. Special topics in computer engineering.

MECHANICAL ENGINEERING

4600:

- 165 TOOLS FOR MECHANICAL ENGINEERING** 3 credits
Personal computer DOC system, word processing, spreadsheet, computer aided drafting, math calculating package, mechanical graphics.
- 203 DYNAMICS** 3 credits
Prerequisite: 4300.201. 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
Prerequisites: 300 and 310. Thermodynamics of state, gas mixtures and gas-vapor mixtures. Combustion. Thermodynamics of gas flow.
- 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
Prerequisite: 203. Properties and behavior of gases and liquids at rest and in motion. Energy equation. Flow in conduits. Forces on body submerged in moving fluid. Dimensional analysis and similitude.
- 315 HEAT TRANSFER** 3 credits
Prerequisites: 165, 300, 310, or 4100.206. Fundamentals of heat transfer by conduction, convection and radiation.
- 321 KINEMATICS OF MACHINES** 3 credits
Prerequisites: 165, 203. Displacements, velocities, accelerations and introduction to forces in plan motion mechanisms. Introduction to design of gears, gear trains and cams.
- 336 ANALYSIS OF MECHANICAL COMPONENTS** 3 credits
Prerequisites: 165, 4300.202, or 4100.206. Analysis of stress 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.
- 340 SYSTEMS DYNAMICS AND RESPONSE** 3 credits
Prerequisite: 3450.225. A unified approach to modeling, analysis, response and stability of engineering systems: analog, digital and hybrid computer simulation of interdisciplinary engineering problems are included.
- 360 ENGINEERING ANALYSIS** 3 credits
Prerequisites: 160, 3450.235, or 4100.206. 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.

- 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 nozzles, diffusers and ducts. One-dimensional reactive gas dynamics. Prandtl-Myer theory. Applications to design and analysis of compressors, turbines and propulsion devices.
- 412/512 FUNDAMENTALS OF FLIGHT** 3 credits
Prerequisite: 310 or equivalent or permission of instructor. Introduction to basic aerodynamics, airplane performance, stability and control, astronautics and propulsion. Design considerations are emphasized.
- 415/515 ENERGY CONVERSION** 3 credits
Prerequisites: 301, 315. Topics from fields of internal combustion engines, cycle analysis, modern conversion devices.
- 416/516 HEAT TRANSFER PROCESSES** 3 credits
Prerequisite: 315. Analysis, design of extended surfaces. Natural convective, combined modes of heat transfer and heat transfer with a change of phase. Heat transfer in magnetohydrodynamic systems.
- 420 INTRODUCTION TO FINITE ELEMENT METHOD** 3 credits
Prerequisite: 336. Introduction to matrix and finite element methods in mechanical engineering. Stiffness and flexibility formulations in both solid mechanics and thermal sciences. Basic finite element methods and its implementation. Application of NASTRAN program. Pre- and post-processing using interactive computer graphics.
- 422/522 EXPERIMENTAL STRESS ANALYSIS I** 3 credits
Prerequisite: 336 or 4300.202. Experimental methods of determining stress or strain: brittle lacquer, strain gages, photoelasticity.
- 430/530 MACHINE DYNAMICS** 3 credits
Prerequisite: 321. Static and dynamic forces in machines, products of inertia, dynamic equivalence, flywheels. Balancing of rotating, reciprocating, cyclic plane motion. Computer simulation of transient mechanism dynamics, other topics in advanced dynamics.
- 431/531 FUNDAMENTALS OF MECHANICAL VIBRATIONS** 3 credits
Prerequisites: 203 and 3450.235. Undamped and forced vibrations of systems having one or two degrees of freedom.
- 432/532 VEHICLE DYNAMICS** 3 credits
Application of dynamic systems analysis techniques to road vehicles. Newtonian and Lagrangian methods. Tire/road interface. Ride characteristics, handling and stability. Digital simulation.
- 440/540 SYSTEM DYNAMICS AND CONTROL** 4 credits
Prerequisites: 315, 431 or permission. Laplace transforms. Mathematical models of physical systems. Transient response and stability. Error analysis and system accuracy. Root locus methods in design. Frequency analysis and design. Compensation techniques.
- 441/541 CONTROL SYSTEMS DESIGN** 3 credits
Prerequisites: 315, 431, 340. Methods of feedback control design such as minimized error, root-locus, frequency domain. Compensation techniques. Multivariable and nonlinear design methods and computer-aided control design.
- 442/542 INDUSTRIAL AUTOMATIC CONTROL** 3 credits
Prerequisite: 440 or equivalent. Operation of basic control mechanisms. Study of mechanical, hydraulic, pneumatic, fluidic control systems, including application areas. Tuning of control devices for optimum performance of system. Case studies on control applications from industry, e.g. boilers, furnaces, process heaters.
- 443/543 OPTIMIZATION METHODS IN MECHANICAL ENGINEERING** 3 credits
Prerequisite: 360. Development and method of solution of optimization problems in mechanical engineering. The use of dynamic programming and operational research methods for optimization including computer utilization and applications.
- 444/544 ROBOT DESIGN, CONTROL AND APPLICATION** 3 credits
Prerequisites: 321, 440 or equivalent. Robot design and control. Kinematic transformations, velocities and accelerations, path trajectories and dynamics, control and sensing in robotics. The automated factory with robot applications.
- 450/550 INTRODUCTION TO COMPUTATIONAL FLUID FLOW AND CONVECTION** 3 credits
Prerequisites: 315, 360, or permission of instructor. Numerical modeling of fluid/thermal systems; numerical solution of the momentum and thermal boundary layer equations; flow simulation using advanced heat transfer/fluid/graphics packages.
- 460 CONCEPTS OF DESIGN** 3 credits
Prerequisite: 337, corequisite: 400. Design process. Creativity and inventiveness. Tools of decision making, engineering economics, reliability, optimization. Case studies.
- 461 DESIGN OF MECHANICAL SYSTEMS** 2 credits
Prerequisites: 321, 431, 460. Detailed mechanical design project and case studies.
- 462/562 PRESSURE VESSEL DESIGN** 3 credits
Prerequisite: 336 or 4300.202. Introduction to modern pressure vessel technology. Topics include basic structural considerations, materials and their environment and design-construction features.
- 483 MECHANICAL ENGINEERING MEASUREMENTS LABORATORY** 2 credits
Prerequisites: 203, 300, 310. Development of methods to measure temperature, pressure, flow rate, viscosity and motion. Includes both lecture and laboratory experience and emphasizes calibration and accuracy of appropriate instruments.
- 484 MECHANICAL ENGINEERING LABORATORY** 2 credits
Prerequisite: 483; corequisites: 315 and 431. Laboratory experiments in area of dynamics, vibrations, thermodynamics, fluids, heat transfer and controls.
- 486 SPECIAL TOPICS** 1-3 credits
Prerequisite: permission. Brief description of current content to be announced in schedule of classes.
- 497 HONORS PROJECT** 1-2 credits
Prerequisite: senior standing in Honors Program. Individual creative project in thermal science, mechanics or design relevant to mechanical engineering, supervised by faculty member of the department.

498 EXPERIMENTAL INVESTIGATION IN MECHANICAL ENGINEERING 1-2 credits

Individual independent laboratory investigations in areas relevant to mechanical engineering. Student suggests a project and makes appropriate arrangements with faculty for supervision.

BIOMEDICAL ENGINEERING

4800:

- 409 INTRODUCTION TO BIOMEDICAL ENGINEERING RESEARCH** 3 credits
Application of engineering principles to local area medical research. Includes biomaterials, orthopedics, artificial organs, biostereometrics, biometrics, biological signal and image analysis, biomechanics and computers in medicine.

CONSTRUCTION TECHNOLOGY

4980:

- 351 CONSTRUCTION QUALITY CONTROL** 2 credits
Prerequisites: 2980.237, 238 or permission. Overview of quality control concepts and techniques as related to the construction industry including the necessary statistical tools; exposes students to civil, mechanical and electrical inspection requirements.
- 352 FIELD MANAGEMENT** 2 credits
Prerequisites: 2980.222, 245 or permission. Planning, scheduling and controlling of field work within time and cost constraints.
- 354 FOUNDATION CONSTRUCTION METHODS** 3 credits
Prerequisite: 2980.234. Soil mechanics and soils exploration as related to construction. Foundation construction methods and practice in the interest of safety and suitable economy.
- 355 COMPUTER APPLICATIONS IN CONSTRUCTION** 3 credits
Prerequisite: admission into the BCT program or permission of instructor. Focuses on realtime and batch programming of construction-oriented problems. Includes graphics, simulation, basic programming, flowcharting, hardware, software and management information applications.
- 356 SAFETY IN CONSTRUCTION** 2 credits
The purpose of this course is to explain what creates hazards and why, and to suggest where to anticipate trouble in each phase of the work as it progresses.
- 357 CONSTRUCTION ADMINISTRATION** 2 credits
Prerequisite: junior standing. Construction specification, office organization, preparation of construction documents, bidding, bonds. Construction management and supervision. Agreement and contracts.
- 358 ADVANCED ESTIMATING** 3 credits
Prerequisite: 355 or permission of the instructor. This course focuses on estimating and bidding for public and private construction. Includes heavy/highway, industrial and building construction with microcomputers to facilitate bid price.
- 361 CONSTRUCTION FORMWORK** 3 credits
Prerequisite: 2980.234 or permission. Introduction to design and construction of field structures. Emphasis on design and construction of formwork and temporary wood structures.
- 453 LEGAL ASPECTS OF CONSTRUCTION** 2 credits
Study of business of contracting and subcontracting and legal problems therein such as breach, partial performance, payment, insolvency, subsurface. Review of AIA standard contracts and construction industry rules of arbitration.
- 462 MECHANICAL SERVICE SYSTEMS** 3 credits
Introduction to materials and equipment used in mechanical heating, ventilating, air conditioning, water and waste systems.
- 463 ELECTRICAL SERVICE SYSTEMS** 3 credits
Introduction to materials and equipment in electrical and acoustical systems of buildings. Includes illumination, electrical sources, materials and distribution, acoustical problems and materials.
- 465 HEAVY CONSTRUCTION METHODS** 3 credits
Prerequisite: 2980.232 or 4300.472. Management techniques in planning, estimating and directing heavy construction operations.
- 466 HYDRAULICS** 3 credits
Prerequisite: 2020.233. Introduction to hydrology. Flow in closed conduits and open channels, distribution, systems, storage requirements and basic concepts of hydraulic structures. Basic concepts of seepage and working knowledge of pumps.
- 467 SPECIAL PROJECTS** 1-3 credits
Prerequisite: senior standing and permission of instructor. Directed individual or group research or study in student's field of interest. Topic subject to approval by adviser.
- 468 CONSTRUCTION MANAGEMENT** 3 credits
Prerequisites: senior-level standing, 352 and 357. *Construction Management* takes established construction practices, current technological advances and latest management methods and makes them into an efficient, smooth working system.
- 470 ADVANCED CONSTRUCTION GRAPHICS** 3 credits
This course focuses on construction graphics through microbased CAD. Topics include microcomputer systems, digitizers, plotters, printers, menus, keyboard and mouse input, introduction and advanced techniques.

College of Education

COOPERATIVE EDUCATION

5000:

- 301 COOPERATIVE EDUCATION** 0 credits
(May be repeated) For cooperative education students only. Work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.

EDUCATIONAL FOUNDATIONS

5100:

- 150 INTRODUCTION TO PROFESSIONAL EDUCATION** 3 credits (4 clinical hours, 12 field hours)
Nature and purpose of education in United States. Emphasis on social, historical and philosophical foundations of public education and on roles of professional educator.
- 250 HUMAN DEVELOPMENT AND LEARNING** 3 credits (12 clinical hours)
Prerequisite: sophomore standing. Study of principles underlying intellectual, emotional, social and physical growth and development of human organism, and of learning process with implications for instructional procedures.
- 258 SMALL GROUP INSTRUCTION** 1-3 credits
(May be repeated for a total of three credits) 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.
- 310 EDUCATIONAL MEDIA AND TECHNOLOGY** 3 credits (20 clinical hours)
Examines media technology including videos, motion pictures, still pictures, audio materials and computers in instructional settings with emphasis on selection/evaluation, utilization and preparation.
- 320 LEARNING AND INDIVIDUALIZED INSTRUCTION** 2 credits
Prerequisite: 250. Behavioral approach to learning and the management of students. Emphasizes design of instructional sequences using behavioral analysis of objectives in both cognitive and psychomotor domains.
- 350 EDUCATIONAL MEASUREMENT AND EVALUATION** 2 credits (8 clinical hours)
Prerequisite: junior standing. Methods of measurement and evaluation applied to learning and instruction. Emphasis on development and coordination of instructional objectives and measurement techniques with instructional procedures.
- 412/512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS** 3 credits (20 clinical hours)
Covers design, adaptation and preparation and media materials. Student produces media materials including overhead projection transparencies, audio recordings, slide sequences and opaque materials. The student is offered project choices.
- 414/514 ORGANIZING AND SUPERVISING EDUCATIONAL MEDIA PROGRAMS** 3 credits
Prerequisite: 310 or permission of the instructor. Procedures for planning, organizing and evaluating educational media programs including media facilities and services.
- 420/520 INTRODUCTION TO COMPUTER-BASED EDUCATION** 3 credits
Prerequisite: graduate or senior standing. Techniques for developing, implementing and evaluating computer-based education. Participants will work with instructional paradigms and instructional computing languages. Both the hardware and software considerations associated with current applications examined.
- 430 SENIOR HONORS PROJECT: FOUNDATIONS** 1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
- 450 PROBLEMS IN EDUCATION** 2 credits (12 clinical hours)
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.
- 480 SPECIAL TOPICS: EDUCATIONAL FOUNDATIONS** 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
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
- 494/594 EDUCATIONAL INSTITUTES** 1-4 credits
Special course designed as in-service upgrading programs.
- 497 INDEPENDENT STUDY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: permission of department head and instructor. Specific area of study determined in accordance with program and professional goals.

ELEMENTARY EDUCATION

5200:

- 100 STUDENT PARTICIPATION: OBSERVATION** 1 credit (30 field hours) (credit/noncredit)
Planned field experience emphasizing tutorial settings in reading and other curricular areas.
- 141 HANDICRAFTS IN THE ELEMENTARY SCHOOL** 2 credits (15 clinical hours)
Prerequisite: 7100.191. Broad range of experiences through manipulation of various craft medium which enriches curriculum.
- 200 PRE-KINDERGARTEN PARTICIPATION I** 1 credit (30 field hours)
Prerequisite: 7400.265, 2200.245. Planned field experience in a pre-kindergarten infant/toddler classroom where students work with children age birth to 3 years both individually and in small groups.
- 215 THE CHILD, THE FAMILY, AND THE SCHOOL** 2 credits
Prerequisite: 5050.210. Social, emotional, cognitive, physical, moral development of elementary and middle school children. Influence, interaction of home, family, peers, and school on the development of children.
- 225 ELEMENTARY FIELD EXPERIENCE I** 2 credits
Prerequisite: Student must be enrolled in or have completed 286 and 141. Planned field experience emphasizing field settings where the student works with small groups of children in an urban elementary classroom.
- 286 CHILDREN'S LITERATURE** 3 credits (15 clinical hours)
Survey of materials for children in prose, poetry and illustrations from early historical periods to modern types; criteria of selection and methods of presentation critically examined.
- 300 STUDENT PARTICIPATION** 1 credit (30 field hours)
Prerequisite: 200, 5610.450. Planned field experience in pre-kindergarten early intervention program where student works in both small and large group settings and with individual children.
- 310 INTRODUCTION TO EARLY CHILDHOOD EDUCATION** 3 credits (10 clinical hours)
Prerequisite: 7400.265. Provides the student with background information on who is serviced, types of programs available, role of the adults and goals of early childhood education.
- 315 ISSUES AND TRENDS IN EARLY CHILDHOOD EDUCATION** 3 credits (10 clinical hours)
Prerequisites: 7400.265 and 5100.250. In-depth examination of issues impacting on children from birth to kindergarten, their families and the early childhood three educational process.
- 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.
- 325 ELEMENTARY FIELD EXPERIENCE II** 2 credits (50 field hours).
Prerequisite: Student must be enrolled in or have completed 338, 333. Student must have successfully completed 225. Planned field experience emphasizing field settings where the student works with large groups of children in a suburban elementary classroom.
- 330 EARLY ELEMENTARY EDUCATION I** 3 credits
Prerequisite: 5100.250. First of two courses designed to introduce student specifically to primary-aged children and their learning styles.
- 331 EARLY ELEMENTARY EDUCATION II** 3 credits
Prerequisite: 330. Curriculum needs of primary-aged child.
- 333 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** 3 credits
Prerequisite: Admission to Teacher Education Program, Art K-12. Visual arts in elementary schools. Art education concepts with studio orientation including history of art education, developmental stages, curriculum and organization, methods, evaluation and research, and practical participation.
- 335 TEACHING THE LANGUAGE ARTS** 4 credits (15 clinical hours)
Prerequisites: 286 and 5100.250. Course for elementary teacher stressing methods and materials for skills development, and trends in various language arts.
- 336 TEACHING OF ELEMENTARY SCHOOL MATHEMATICS I** 3 credits
Prerequisite: 5100.250. Trends in instruction in elementary schools. Procedures for development of mathematical concepts and skills.
- 337 TEACHING OF READING** 3 credits
Prerequisites: 335 and 5100.250. Elementary reading program, together with modern methods of teaching reading at various levels.
- 338 THE TEACHING OF SOCIAL STUDIES** 3 credits
Prerequisite: 5100.250. Social studies in elementary school and varied means of implementing program.
- 339 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING** 3 credits
Prerequisite: 337. Nature of reading problems in classroom setting. Methods and materials employed in corrective reading program by classroom teacher.
- 340 EARLY ELEMENTARY EDUCATION I — LABORATORY** 1 credit
Corequisite: 330. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus or to develop materials for use by learner.
- 341 EARLY ELEMENTARY EDUCATION II — LABORATORY** 1 credit
Corequisite: 331. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus or to develop materials for use by learner.
- 343 SCIENCE FOR THE ELEMENTARY GRADES — LABORATORY** 1 credit (30 clinical/field hours)
Corequisite: 333. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus or to develop materials for use by learner.
- 344 TEACHING ART IN THE ELEMENTARY SCHOOL — LABORATORY** 1 credit (30 clinical/field hours)
Corequisite: 334. Provides an opportunity for art education student to implement techniques described in accompanying methods course with learner in the field, learner on campus or to develop processes for use by learner.

- 346 TEACHING ELEMENTARY SCHOOL MATHEMATICS — LABORATORY** 1 credit (30 clinical/field hours)
Corequisite: 336. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in field, learner on campus or to develop materials for use by learner.
- 347 TEACHING OF READING — LABORATORY** 1 credit (30 clinical/field hours)
Corequisite: 337. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus or to develop materials for use by learner.
- 348 TEACHING OF SOCIAL STUDIES — LABORATORY** 1 credit (30 clinical/field hours)
Corequisite: 338. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus or to develop materials for use by learner.
- 349 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING — LABORATORY** 1 credit (30 clinical/field hours)
Prerequisites: 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.
- 355 LANGUAGE AND LITERACY IN EARLY CHILDHOOD** 3 credits
Prerequisite: 7400:265. A framework for the development of literacy from birth to age 8. Factors influencing emerging literacy will be explored. Emphasis on young children's literature.
- 356 TEACHING ELEMENTARY SCHOOL MATHEMATICS II** 2 credits (12 clinical hours)
Prerequisite: University College math requirement, 336. Students will learn to diagnose and remediate mathematical difficulties exhibited by children. They will devise teaching strategies and materials for individual mathematical learning differences.
- 360 TEACHING IN THE NURSERY CENTER** 2 credits (10 clinical hours)
Prerequisite: 310, 7400:280, 270, or permission of instructor; corequisite: 370. Assists students with the integration of knowledge, skills, attitudes and values learned in the pre-kindergarten program as they participate with young children.
- 365 COMPREHENSIVE MUSICIANSHIP FOR THE ELEMENTARY CLASSROOM TEACHER** 3 credits (25 clinical hours)
Designed to afford a prospective classroom teacher the opportunity to develop individual musical skills in creativity, performance and listening as means of enhancing teaching through use of music.
- 370 NURSERY CENTER LABORATORY** 2 credits (53 clinical hours)
Prerequisites: 310, 7400:280, 270 or permission of instructor. Corequisite: 360. Lab accompanies 360 and is an integrated practical experience in the University Nursery Center under the direction of experienced teachers.
- 395 FIELD EXPERIENCE** 1-3 credits
Prerequisites: permission of adviser and department head. Independent field work in area selected by student's adviser, based on student's needs.
- 403 STUDENT TEACHING SEMINAR** 1 credit (15 clinical hours)
Prerequisite: senior standing. In conjunction with Student Teaching. Synthesis of contemporary problems encountered during student teaching experience. Exchange of ideas regarding role of new teacher entering profession.
- 411/511 CREATIVE TECHNIQUES FOR EXPLORING CHILDREN'S LITERATURE** 2 credits
Prerequisite: 286. Examination of techniques for interpretation of children's literature including storytelling, creative dramatics, reader's theatre and choral speaking.
- 425 ELEMENTARY FIELD EXPERIENCE III** 2 credits (50 field hours),
Prerequisites: Student must be enrolled in or have completed 335, 336, 337. Student must have completed 325. Planned field experience emphasizing field settings where the teacher education student works with entire classes of children in an elementary or middle school setting.
- 430 SENIOR HONORS PROJECT: ELEMENTARY** 1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
- 435/535 ACTIVITIES TO INDIVIDUALIZE SOCIAL STUDIES** 2 credits
Prerequisite: 338. Development of materials and activities (learning games, simulation games, simulations, learning stations, programmed field trips and map activities) to provide teacher with variety of techniques in order to develop an individualized, student-involved social studies program.
- 436/536 GEOMETRY AND MEASUREMENT IN ELEMENTARY SCHOOL MATHEMATICS** 3 credits
Prerequisite: 336. Trends in geometry and measurement instruction in elementary school. Procedures for development of important geometric concepts and measurement skills.
- 437/537 STRUCTURE OF THE NUMBER SYSTEM IN ELEMENTARY SCHOOL MATHEMATICS** 3 credits
Prerequisite: 336. Applied and advanced topics in mathematics education in elementary school. Thorough investigation of number system presently being taught in elementary school.
- 438/538 MATERIALS AND LABORATORY TECHNIQUES IN ELEMENTARY SCHOOL MATHEMATICS** 3 credits
Prerequisite: 336. Applied mathematics. Construction and application of mathematical models. Procedures for development of important mathematical concepts through the laboratory approach.
- 439/539 PROPERTIES OF NUMBERS IN ELEMENTARY SCHOOL MATHEMATICS** 3 credits
Prerequisite: 336. Investigation of those number properties that help explain how laws of arithmetic work. Procedures for development of important arithmetic concepts and computational skills.
- 440/540 CONTEMPORARY ELEMENTARY SCHOOL SCIENCE PROGRAMS** 2 credits
Prerequisite: 333. Contemporary elementary science programs critically analyzed and their procedure developed and implemented in University classroom.
- 451 ELEMENTARY EDUCATION** 3 credits
Evaluation of recent trends and practices in elementary education. Required for those converting from other certificates.

- 480 SPECIAL TOPICS: ELEMENTARY EDUCATION** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.
- 490,1,2,3/590,1,2,3 WORKSHOP** 1-3 credits each
Elective workshop for elementary education major who would pursue further refinement of teaching skills. Emphasizes demonstrations of teaching techniques and development of suitable teaching devices.
- 494/594 EDUCATIONAL INSTITUTES** 1-4 credits
Special courses designed as in-service upgrading programs. Frequently provided with the support of national foundations.
- 495 STUDENT TEACHING** 4-8 credits (322 field hours)
Prerequisites: senior standing and 300. Planned teaching experience (in elementary school) selected and supervised by Office of Educational Field Experience.
- 496 STUDENT TEACHING** 1-6 credits
The capstone field experience for elementary education majors. Students will have two classroom experiences—one primary level and one intermediate level.
- 497 INDEPENDENT STUDY** 1-3 credits
Prerequisites: permission of adviser and department head. Specific area of curriculum investigation pertinent to elementary education as determined by student's academic needs.

READING

5250:

- 341 LABORATORY PRACTICUM IN READING** 3 credits
Prerequisite: 5200:339. Laboratory experience with classroom, small groups and individual situations. A student diagnoses, implements procedures and follows prescribed reading improvement practices.
- 411/511 MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION** 3 credits
Prerequisite: 5200:339. Professional problems of selection and evaluation of reading materials and classroom organizations explored.
- 440/540 DEVELOPMENTAL READING IN THE CONTENT AREAS — ELEMENTARY** 3 credits
Prerequisite: 5200:337 or permission of instructor. Nature of reading skills relating to content subjects. Methods and materials needed to promote reading achievement in content subjects by the elementary classroom teacher.
- 441/541 LANGUAGE AND ITS RELATIONSHIP TO READING IN THE ELEMENTARY SCHOOL** 3 credits
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.
- 442/542 TEACHING READING TO CULTURALLY DIFFERENT LEARNERS** 3 credits
Prerequisite: 5200:337 or by permission of the instructor. The course is designed to provide a student with knowledge, skills and attitudes which will enable employment of effective methods of teaching reading to culturally different learners, and/or learners whose language patterns are nonstandard.
- 480 SPECIAL TOPICS: ELEMENTARY READING INSTRUCTION** 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.

SECONDARY EDUCATION

5300:

- 296 EXPLORATORY EXPERIENCE IN SECONDARY SCHOOLS/MAINSTREAMING** 1-2 credits
Field work for the special education major.
- 311 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION** 4 credits (30 clinical hours, 20 field hours)
Prerequisites: 210, 325, and 5100:350. Open to student who has completed certification requirements in all content fields. Techniques of planning, instruction and evaluation in various secondary teaching fields.
- 316 METHODS IN TEACHING ART** 2 credits
Prerequisites: completion of required course for art teachers and grade-point average of 2.50 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.
- 321 JUNIOR HIGH AND MIDDLE SCHOOL EDUCATION** 2 credits
Designed to provide student with knowledge and understanding of junior high and middle school education with ability to interpret it to other educators, parents and pupils.
- 325 CONTENT READING IN SECONDARY SCHOOLS** 3 credits (30 clinical hours)
Corequisite: 375. Instructional principles and practices for helping secondary school youth and adults learn subject matter through application of reading and study skills.
- 330 TEACHING OF ADOLESCENT LITERATURE** 3 credits
Prerequisite: permission of adviser. Student develops skills for selection of literature that is well suited for secondary student. Student develops, uses and experiences methods for teaching adolescent literature in secondary schools.
- 374 PRINCIPLES OF SHORTHAND INSTRUCTION** 2 credits
Prerequisites: 2540:173 and grade-point average of 2.50 in the field. Methods of presentation in shorthand and transcription. Demonstration and observations required. Theory test in the field must be passed before credit given for course.
- 375 EXPLORATORY EXPERIENCE IN SECONDARY EDUCATION** 1 credit (6 clinical hours, 30 field hours)
Prerequisite: 210; corequisite: 325. Field work with secondary school pupils, teachers and other school personnel.

- 395 FIELD EXPERIENCE** 1-3 credits
Prerequisite: upper-college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.
- 425/525 ADVANCED MICROCOMPUTER APPLICATIONS IN THE SECONDARY SCHOOLS** 3 credits (30 clinical hours)
Prerequisite: knowledge of BASIC programming is required. Advanced programming techniques reviewed, applied in program development appropriate for the secondary schools. Hardware, software, computer potential and limitations, languages, program types will be evaluated according to research findings and criteria applicable to secondary schools.
- 430 SENIOR HONORS PROJECT: SECONDARY** 1-6 credits
(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 CONCEPTS AND CURRICULUM DESIGNS IN ECONOMIC EDUCATION** 3 credits
Economic education concepts appropriate for grade levels K-12 and adult education courses. Economic education materials developed to teach the concepts utilized.
- 445 MICROCOMPUTER LITERACY FOR SECONDARY TEACHERS** 2 credits (30 clinical hours)
Prerequisites: 210 and senior status. Provides an orientation to applications of various modes of instruction, word processor, color graphics and printer in BASIC programs appropriate for secondary classrooms.
- 475/575 VOCATIONAL BUSINESS EDUCATION** 3 credits
Prerequisite: senior status or permission. Principles of program construction, organization, implementation, evaluation, improvement, and development of program guides for both intensive and cooperative vocational business education.
- 480 SPECIAL TOPICS: SECONDARY 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.
- 485 CLASSROOM DYNAMICS** 2 credits (10 clinical/diagnostic, 15 field hours)
Corequisite: 495. Study of issues and behavioral patterns pertinent to successful teacher human relations and classroom management technique.
- 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.
- 495 STUDENT TEACHING ART K-12** 11 credits
Prerequisites: Senior status and permission of instructor. Directed teaching under supervision of directing teacher and University supervisor.
- 497 INDEPENDENT STUDY** 1-3 credits
Prerequisites: permission of adviser and supervisor of independent study. Area of study determined by student's needs.

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 minimally commensurate with that associated with employment expectations of graduates of technical programs.
- 351 CONSUMER HOMEMAKING METHODS** 4 credits
Prerequisites: senior standing, enrolled in student teaching. Organization of home economics in secondary schools. Emphasis on methodology, techniques, development of vocational concepts, utilization of audio-visual materials, evaluation procedures.
- 395 FIELD EXPERIENCE** 1-3 credits
Prerequisite: upper-college standing. Supervised work with youngsters, individually and in groups in educational institutions, training and/or community settings.
- 400/500 THE POSTSECONDARY OCCUPATIONAL LEARNER** 3 credits
Describes the postsecondary occupational learner; studies issues, factors, and strategies pertinent to successful facilitation of learning in a variety of postsecondary occupational learning environments.
- 403 TECHNICAL EDUCATION PRACTICUM SEMINAR** 2 credits
Corequisite: 495.
- 405/505 OCCUPATIONAL 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 TRAINING IN BUSINESS AND INDUSTRY** 3 credits
Examines the role and mission of the training function in the modern industrial setting. Provides a foundation for a student planning to become an industrial trainer or training supervisor of technicians and other occupational skill-development levels.
- 421/521 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION** 4 credits
Selected topics in instructional techniques appropriate to post-secondary technical education. Emphasis on instructional methods, techniques in classroom, laboratory including tests, measurements.
- 430/530 COURSE CONSTRUCTION IN TECHNICAL EDUCATION** 2 credits
Procedure of breaking down an occupation to determine curriculum for laboratory and classroom, developing this content into an organized sequence of instructional units.
- 440 LIFE-SPAN AND COMMUNITY EDUCATION** 2 credits
Designed for a person engaged in providing educational services in the community. Includes examination of community education concepts and roles of various personnel and agencies.

- 441/541 EDUCATIONAL GERONTOLOGY SEMINAR** 3 credits
Designed for person practicing in field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of courses, seminars, occupational training programs and workshops for older people.
- 451/551 HOME ECONOMICS JOB TRAINING** 3 credits
Prerequisite: senior standing or permission of instructor. Concept development in vocational home economics. Job training, program development, operational procedures, skill and knowledge identification, training profiles, job description and analysis. Individualized study guides. In-school and on-the-job observations.
- 480 SPECIAL TOPICS: VOCATIONAL 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 SPECIAL TOPICS: TECHNICAL EDUCATION** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.
- 490,1,2/590,1,2 WORKSHOP** 1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
- 494/594 EDUCATIONAL INSTITUTES** 1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.
- 495 TECHNICAL EDUCATION PRACTICUM** 1-4 credits
Prerequisites: 410, 421, 430 or equivalent and permission of adviser; corequisite: 403. Directed teaching under supervision of directing teacher and University supervisor.
- 497 INDEPENDENT STUDY** 1-3 credits
Prerequisites: permission of adviser and supervisor of independent study. Area of study determined by student's need.

PHYSICAL EDUCATION

5550:

- 101 FUNDAMENTALS OF ARCHERY/BOWLING** 1 credit (20 clinical hours)
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 (20 clinical hours)
Acquisition of performance skills, knowledge of rules and strategy and appreciation of badminton and volleyball as a means of physical activity in our culture. Two class periods per week.
- 103 FUNDAMENTALS OF SOCCER/FIELD HOCKEY** 1 credit (20 clinical hours)
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 (20 clinical hours)
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 (20 clinical hours)
Acquisition of skills and knowledge of rules for participation in, and organization of, common indoor and outdoor recreational activities. For the physical education and outdoor education student.
- 106 RECREATIONAL ACTIVITIES FOR THE HANDICAPPED** 1 credit (20 clinical hours)
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 (20 clinical hours)
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 (20 clinical hours)
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 (25 clinical hours)
For a physical education major only. Participation in play activities commonly used in elementary physical education programs. One lecture and two laboratory periods per week.
- 140 PHYSICAL EDUCATION ACTIVITIES I** 3 credits (90 clinical hours)
Acquisition of performance skills and knowledge of rules and techniques of gymnastics and tumbling, team sports and conditioning activities. Six class periods per week.
- 141 PHYSICAL EDUCATION ACTIVITIES II** 3 credits (90 clinical hours)
Acquisition of performance skills and knowledge of techniques and development of dance activities, swimming and individual lifetime sports. Six class periods per week.
- 150 CONCEPTS IN HEALTH AND FITNESS** 3 credits
Introduction to basic health and fitness concepts and related topics. Attention will be given to individual fitness programs emphasizing such topics as aerobic and anaerobic exercises, nutrition, diet, stress, and assessment methods and procedures.
- 155 ORGANIZATION AND ADMINISTRATION OF RECREATION** 2 credits (2 clinical hours, 10 field hours)
General administrative procedures common. Analysis, discussion and visitations of various types of recreational programs.
- 193 METHODS OF TEACHING PHYSICAL EDUCATION** 3 credits (22 clinical hours, 10 field hours)
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 (8 clinical hours)
Knowledge of rules for interscholastic sports and officiating techniques. Successful completion of course permits taking of state examination for officiating. Two lectures and one laboratory per week.
- 201 KINESIOLOGY** 2 credits
Prerequisites: 3100:206, 207. Application of principles of anatomy to movement of human body.
- 202 PHYSIOLOGY OF EXERCISE** 3 credits (30 clinical hours)
Prerequisites: 3100:206, 207. Study of physiological effects of exercise relative to physical education activities and athletics. Two hours lecture, two hours laboratory.

- 211 FIRST AID** *2 credits (15 clinical hours)*
Standard American Red Cross gives instruction and practice in immediate and temporary care of injuries and sudden illnesses. In addition to standard course, CPR is covered.
- 235 CONCEPTS OF MOTOR DEVELOPMENT AND LEARNING** *2 credits (30 clinical hours)*
Analysis of concepts fundamental to learning motor activities.
- 245 INSTRUCTIONAL TECHNIQUES IN ELEMENTARY PHYSICAL EDUCATION** *2 credits (50 clinical hours)*
Prerequisites: 130, 140, 193. Supervised teaching of elementary physical education activities to peers. Four class periods per week.
- 246 INSTRUCTIONAL TECHNIQUES IN SECONDARY PHYSICAL EDUCATION** *2 credits (50 clinical hours)*
Prerequisites: 140, 193 and at least one credit of 101 through 120. Supervised teaching of secondary physical education activities to peer. Four class periods per week.
- 300 PHYSIOLOGY OF EXERCISE FOR THE ADULT AND ELDERLY** *2 credits*
Analysis of physiological effects of exercise on elderly. Exercise programs adaptable for use by persons working with elderly.
- 310 THEORY AND TECHNIQUES OF SOCCER** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of soccer. Two class periods per week.
- 311 THEORY AND TECHNIQUES OF TRACK AND FIELD** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of track and field. Two class periods per week.
- 312 THEORY AND TECHNIQUES OF BASKETBALL** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of basketball. Two class periods per week.
- 313 THEORY AND TECHNIQUES OF BASEBALL/SOFTBALL** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of baseball and softball. Two class periods per week.
- 314 THEORY AND TECHNIQUES OF SWIMMING** *2 credits (20 clinical hours)*
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 (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of tumbling and gymnastics. Two class periods per week.
- 320 THEORY AND TECHNIQUES OF VOLLEYBALL** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of volleyball. Two class periods per week.
- 325 THEORY AND TECHNIQUES OF FOOTBALL** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of football. Two class periods per week.
- 326 THEORY AND TECHNIQUES OF WRESTLING** *1 credit (20 clinical hours)*
Theory, techniques and organizational procedures for coaching of wrestling. Two class periods per week.
- 334 GAMES AND RHYTHMS: ELEMENTARY GRADES** *2 credits (20 clinical hours, 4 field hours)*
Not open to a physical education major. Physical education activities which may be used by classroom teachers. Theory of motor development. One hour lecture, two hours laboratory.
- 335 MOVEMENT EXPERIENCES FOR THE ELEMENTARY GRADES** *2 credits (20 clinical hours, 10 field hours)*
Analysis, theory, practical application of basic movement experiences for children. One hour lecture, two hours laboratory.
- 336 PHYSICAL EDUCATION ACTIVITIES FOR PRESCHOOL CHILDREN** *2 credits (20 clinical hours, 20 field hours)*
Investigation of play activities for positive growth and development of preschool child. Organization of motor activities in nursery school and kindergarten curriculum. One hour lecture, two hours laboratory.
- 340 CARE AND PREVENTION OF ATHLETIC INJURIES** *3 credits (15 clinical hours)*
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.
- 345 ADAPTED PHYSICAL EDUCATION** *2 credits (3 field hours)*
Prerequisites: 3100:206, 207. 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 patterns and equipment and supplies.
- 351 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND ATHLETICS** *3 credits (10 clinical hours)*
Organizational patterns unique to conduct of intramurals, sport clubs and interscholastic athletics. Includes considerations of tournament designs, supplies and equipment and administration. Two hours lecture, two hours laboratory.
- 395 FIELD EXPERIENCE** *1-3 credits (30-90 field hours)*
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 (10 clinical hours)*
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** *1-6 credits*
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
- 436/536 ADAPTED PHYSICAL EDUCATION TASKS FOR THE LEARNING DISABLED CHILD** *2 credits (5 clinical hours)*
Teaching methods and materials necessary to structure developmental tasks for learning disabled child; designed for a person preparing to teach elementary school physical education and special education.

- 441/541 ADVANCED ATHLETIC INJURY MANAGEMENT** *4 credits (30 clinical hours)*
Prerequisites: 3100:206,207; suggested sequence, 5550:201, 202, 340. Advanced athletic training techniques for the student desiring to become a certified athletic trainer according to the regulations of the National Athletic Trainers Association.

- 442/542 THERAPEUTIC MODALITIES AND EQUIPMENT IN SPORTS MEDICINE** *3 credits (30 clinical hours)*
Purpose is to develop techniques and skills among sports medicine personnel in the selection and implementation of therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

- 460 PRACTICUM IN PHYSICAL EDUCATION** *3-6 credits (90-180 field hours)*
Prerequisites: senior standing and permission of adviser. Practical work experience with certified personnel in a discipline or profession related to physical education. The experience will be a cooperative effort of the student's adviser, the student and agency personnel directly involved with the practicum.

- 475 SEMINAR IN HEALTH AND PHYSICAL EDUCATION** *3 credits (25 clinical hours)*
Provide the opportunity to develop mastery of problem-solving and presentation methods in health and physical education, with experiential learning.

- 480 SPECIAL TOPICS: PHYSICAL EDUCATION** *1-4 credits*
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

- 490,1,2,3/590,1,2,3 WORKSHOP** *1-3 credits each*
Practical, intensive and concentrated involvement with current curricular practices in areas related to physical education.

- 494/594 EDUCATIONAL INSTITUTIONS AND FOUNDATIONS** *1-4 credits*
Practical experience with current research or curricular practices involving expert resource person in physical education, and usually financed by private or public funding.

- 495 STUDENT TEACHING** *4-8 credits (300 field hours)*
Prerequisites: senior status, all major courses completed, 2.50 grade-point average in major. Supervised teaching experience in a public school for 15 weeks.

- 497 INDEPENDENT STUDY** *1-2 credits (30-60 field hours)*
Prerequisite: permission of adviser. Analysis of specific topic related to a current problem in physical education. May include investigative procedures, research or concentrated practical experience.

OUTDOOR EDUCATION

5560:

- 430 SENIOR HONORS PROJECT: OUTDOOR EDUCATION** *1-6 credits*
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

- 450/550 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM** *4 credits*
Provides knowledge, skills and techniques useful in application of outdoor education to school curriculum.

- 452/552 METHODS, MATERIALS AND RESOURCES FOR TEACHING OUTDOOR EDUCATION** *3 credits*
Methodologies unique to outdoor education 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, 454. Closely supervised practical experience in conjunction with regularly scheduled classroom meetings. Laboratory experience consists of active participation with an established outdoor education program.

- 490/590 WORKSHOP: OUTDOOR EDUCATION** *1-3 credits*
Practical application of contemporary ideas, methodologies, knowledge relevant to outdoor education. Emphasis on participant involvement in educational practices, utilizing the natural environment.

- 494/594 EDUCATIONAL INSTITUTES: OUTDOOR EDUCATION** *1-4 credits*
Practical experience with current research or curricular practices involving expert resource persons in outdoor education.

- 497 INDEPENDENT STUDY** *1-3 credits (30-90 field hours)*
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.

HEALTH EDUCATION

5570:

- 101 PERSONAL HEALTH** *2 credits (5 clinical hours)*
Application of current principles and facts pertaining to healthful, effective living. Personal health problems and needs of students.

- 200 CURRENT TOPICS IN HEALTH EDUCATION** *3 credits (20 clinical hours, 5 field hours)*
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 (20 clinical hours, 5 field hours)
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. An understanding of the maintenance of body weight and how it is affected by a person's knowledge of nutrition and exercise will be included.
- 202 STRESS, LIFE STYLE AND YOUR HEALTH** 3 credits (20 clinical hours, 5 field hours)
Overview of the behavior associated with wellness and disease.
- 320 COMMUNITY HYGIENE** 2 credits (10 clinical hours, 2 field hours)
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 (20 clinical hours, 4 field hours)
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 (20 clinical hours, 10 field hours)
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 (20 clinical hours, 10 field hours)
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 (30-90 field hours)
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 (10 clinical hours, 30 field hours)
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 study of health problems paradoxically resulting from affluence.
- 430 SENIOR HONORS PROJECT: HEALTH EDUCATION** 1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
- 460 PRACTICUM IN HEALTH EDUCATION** 2 credits (60 field hours)
Prerequisite: permission of the adviser. On-site participation in community health organizations, agencies or resources.
- 497 INDEPENDENT STUDY IN HEALTH EDUCATION** 1-2 credits (30-60 field hours)
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: junior, senior or graduate standing. Examination of current career education models and programs with emphasis on infusion of career education activities into elementary and secondary curriculum.
- 436 HELPING SKILLS FOR RESIDENT ASSISTANTS** 2 credits
(Credit/noncredit) Prerequisite: open to resident assistants in University housing. A course designed to help student personnel workers become more effective in professional role.
- 450/550 COUNSELING PROBLEMS RELATED TO LIFE-THREATENING ILLNESS AND DEATH** 3 credits
Prerequisite: permission. Consideration of the global issues, current research, coping behavior, support systems and family and individual needs in regard to life-threatening situations.
- 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.

SPECIAL EDUCATION

5610:

- 201 STUDENT PARTICIPATION: DEVELOPMENTALLY HANDICAPPED** 1 credit (credit/noncredit)
Prerequisites: sophomore standing and permission. Systematic observation and participation in classes for children with developmental handicaps.
- 202 STUDENT PARTICIPATION: SPECIFIC LEARNING DISABLED** 1 credit (credit/noncredit)
Prerequisites: sophomore standing and permission. Systematic observation and participation in classes for children with specific learning disabilities.
- 203 STUDENT PARTICIPATION: ORTHOPEDICALLY HANDICAPPED** 1 credit (credit/noncredit)
Prerequisites: sophomore standing and permission. Systematic observation and participation in classes for children with orthopedic handicaps.
- 204 STUDENT PARTICIPATION: SEVERE BEHAVIOR HANDICAPPED** 1 credit (credit/noncredit)
Prerequisites: sophomore status and permission. Systematic observation and participation in classes for children with severe behavior handicaps.
- 205 STUDENT PARTICIPATION: MULTIHANDICAPPED** 1 credit (credit/noncredit)
Prerequisites: sophomore status and permission. Systematic observation and participation in classes for children with multiple handicaps.
- 206 STUDENT PARTICIPATION: GIFTED** 1 credit (credit/noncredit)
Prerequisites: sophomore status and permission. Systematic observation and participation in classes for children who are gifted.
- 395 FIELD EXPERIENCE: SPECIAL EDUCATION** 1-3 credits
Prerequisite: upper-college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.
- 403 SENIOR SEMINAR** 2 credits
Prerequisites: senior status in conjunction with student teaching. Examines a wide variety of problems, issues and practices encountered during student teaching experience and undergraduate program. Such problems/issues as consultation skills, behavior management aspects, service delivery factors and legal responsibilities will be discussed.
- 430 SENIOR HONORS PROJECT: SPECIAL EDUCATION** 1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
- 440/540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS** 3 credits
Identification, developmental characteristics, and treatment procedures for atypical children and youth in both regular and special education facilities.
- 441/541 DEVELOPMENTAL CHARACTERISTICS OF THE MENTALLY RETARDED** 4 credits
Prerequisites: 440/540. A survey of the etiology, diagnoses, classification, and developmental characteristics of individuals with mental retardation and developmental disabilities. This course will include individuals classified at all levels of mental retardation: mild, moderate, severe, and profound.
- 443/543 DEVELOPMENTAL CHARACTERISTICS OF THE SPECIFIC LEARNING DISABLED** 3 credits
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of learning disabled individuals.
- 444/544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS** 3 credits
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of intellectually gifted individuals.
- 445/545 DEVELOPMENTAL CHARACTERISTICS OF ORTHOPEDICALLY HANDICAPPED INDIVIDUALS** 3 credits
Prerequisite: 440/540. Etiology, diagnosis, classification, developmental characteristics of the orthopedically handicapped individuals.
- 446/546 DEVELOPMENTAL CHARACTERISTICS OF THE SEVERE BEHAVIOR HANDICAPPED** 3 credits
Etiology, diagnosis, classification, developmental characteristics of the socially and emotionally maladjusted individuals.
- 450/550 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD** 3 credits
Typical and atypical developmental patterns of young children, assessment and implication of handicapping conditions with respect to early intervention and supportive services.
- 451/551 SPECIAL EDUCATION PROGRAMMING: ELEMENTARY LEVEL** 3 credits
Prerequisite: 450/550. Educational implications in regard to assessment teaching strategies, adaptive materials, evaluations, that are necessary to meet the needs of elementary level exceptional children.
- 452/552 SPECIAL EDUCATION PROGRAMMING: SECONDARY/VOCATIONAL** 3 credits
Prerequisite: 450/550. Study of diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of secondary-level exceptional children.
- 454/554 SPECIAL EDUCATION PROGRAMMING: MULTIHANDICAPPED** 4 credits
Prerequisite: 441/541. Consists of curriculum and teaching practices for individuals with mental retardation in combination with other handicapping conditions.
- 455/555 EDUCATIONAL ADJUSTMENT FOR INTELLECTUALLY GIFTED INDIVIDUALS** 3 credits
Prerequisite: 444/544. Study of programs, services and educational experiences designed to accommodate developmental patterns of intellectually gifted individuals.
- 456/556 SPECIAL EDUCATION PROGRAMMING: SEVERE BEHAVIOR HANDICAPPED** 3 credits
Prerequisites: 446/546. Students will develop teaching materials, assessment techniques, and IEPs for SBH individuals. Data evaluation and theoretical orientations will be stressed.
- 457/557 SPECIAL EDUCATION PROGRAMMING: ORTHOPEDICALLY HANDICAPPED** 3 credits (20 field hours)
Prerequisites: 445/545, 451/551, 452/552. Study of programs, services, educational experiences, and adaptations designed to accommodate individuals who are orthopedically handicapped and/or chronically health impaired.

- 458/558 INTERDISCIPLINARY PROGRAMMING IN SPECIAL EDUCATION** 3 credits
Prerequisite: permission of instructor. A study of the programs, interdisciplinary services, educational techniques designed to accommodate the needs of MSPR multihandicapped and orthopedically handicapped individuals.
- 459/559 COMMUNICATION AND CONSULTATION WITH PARENTS AND PROFESSIONALS** 3 credits
Prerequisite: 440/540. Provides the prospective special education teacher with skills in communication and consultation for working with parents of exceptional individuals and other professionals.
- 461/561 TECHNOLOGY AND MATERIALS APPLICATION IN SPECIAL EDUCATION** 3 credits
Prerequisite: 5100/310 or permission of instructor. Microcomputer operation and programming in special education; operation and use of unique audio or visual tools for handicapped and/or adaptive use of traditional equipment; overview of curriculum materials designed for exceptional learner.
- 462/562 EDUCATING EXCEPTIONAL CHILDREN IN THE REGULAR CLASSROOM** 3 credits
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.
- 463/563 ASSESSMENT IN SPECIAL EDUCATION** 3 credits
Prerequisite: 440/540. Prepares student to select, administer and interpret formal and informal assessment procedures and use resulting data in planning educational programs for exceptional individuals.
- 465/565 NEUROMOTOR ASPECTS OF PHYSICAL DISABILITIES** 3 credits
Prerequisites: 454/554 or 457/557. Provides the student with a basic knowledge of the human neuromuscular system and the impact of neuromuscular damage on the form and function of movement and behavior.
- 466/566 RECREATIONAL PROGRAMS FOR EXCEPTIONAL INDIVIDUALS** 3 credits
Prerequisite: 440/540. Study experience which examines crafts and outdoor recreational programming for exceptional individuals.
- 467/567 CLASSROOM BEHAVIOR MANAGEMENT** 3 credits
Review of behavior management principles and the development of application models for exceptional children in the classroom.
- 468/568 ADVANCED BEHAVIOR MANAGEMENT** 3 credits
Prerequisites: 467/567. Advanced techniques for remediating problematic behavior, establishing effective repertoires and evaluating research relevant to classroom management will be covered. Behavioral theory will be stressed.
- 470/570 CLINICAL PRACTICUM IN SPECIAL EDUCATION** 3 credits
Prerequisite: Permission of instructor. Provides a laboratory experience for students to conduct psychoeducational study with students exhibiting learning/behavioral problems in school.
- 471/571 CLINICAL PRACTICUM IN GIFTED EDUCATION** 3 credits
Prerequisites: 444/544, 455/555. A supervised clinical experience with individuals or small groups designed to provide practice in diagnostic and instructional intervention with gifted students.
- 479/579 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION** 1-2 credits
(May be repeated for a total of four credits) Topical study with a varied array of disciplinary input. Staffing will be invited members of allied and contributing professions active in management of exceptional children.
- 480 STUDENT TEACHING: DEVELOPMENTALLY HANDICAPPED** 14 credits
A full-time 16-week planned teaching experience in two developmentally handicapped classes at different educational levels (preschool/primary, intermediate, secondary) under the supervision of a cooperating teacher and a University supervisor.
- 481 STUDENT TEACHING: SPECIFIC LEARNING DISABLED** 14 credits
A full-time 16-week planned teaching experience in two Specific Learning Disabled classes at different educational levels (preschool/primary, intermediate, secondary) under the supervision of a cooperating teacher and a University supervisor. Student teaching is credit/noncredit.
- 482 STUDENT TEACHING: ORTHOPEDICALLY HANDICAPPED** 14 credits
A full-time 16-week planned teaching experience in two Orthopedically Handicapped classes at different educational levels (preschool/primary, intermediate, secondary) under the supervision of a cooperating teacher and a University supervisor. Student teaching is credit/noncredit.
- 483 STUDENT TEACHING: SEVERE BEHAVIOR HANDICAPPED** 14 credits
A full-time 16-week planned teaching experience in two Severe Behavior Handicapped classes at different educational levels (preschool/primary, intermediate, secondary) under the supervision of a cooperating teacher and a University supervisor. Student teaching is credit/noncredit.
- 484 STUDENT TEACHING: MULTIHANDICAPPED** 14 credits
A full-time 16-week planned teaching experience in two multihandicapped classes at different educational levels (preschool/primary, intermediate, secondary) under the supervision of a cooperating teacher and a University supervisor. Student teaching is credit/noncredit.
- 485 STUDENT TEACHING — SPECIAL EDUCATION** 8 credits
Prerequisite: Completion of major program requirements — permission. A full-time 8 week (Summer — 5 week) planned teaching experience in a designated setting with exceptional children under the supervision of the cooperating teacher and the University supervisor.
- 490,1,2,3/590,1,2,3 WORKSHOP** 1-3 credits each
(May be repeated for a total of six credits) Designed to explore special topics in in-service or preservice education on a needs basis.
- 494/594 EDUCATION INSTITUTES: SPECIAL EDUCATION** 1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.
- 497 INDEPENDENT STUDY: SPECIAL EDUCATION** 1-3 credits
Prerequisites: permission of adviser and supervisor of the independent study. Specific area of investigation determined in accordance with student's needs.

- 491,2/591,2 WORKSHOP** 1-3 credits each
Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.
- 494/594 SCHOOL PSYCHOLOGY INSTITUTES** 1-4 credits
Prerequisite: permission of instructor. Specifically designed learning experience for program graduate focusing on critical topics.

MULTICULTURAL EDUCATION

5630:

- 480 SPECIAL TOPICS: MULTICULTURAL EDUCATION** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.
- 481/581 MULTICULTURAL EDUCATION IN UNITED STATES** 3 credits
Inquiry into multicultural dimensions of American education. Comparisons of urban, suburban and rural educational settings with reference to socioeconomic differences.
- 482/582 CHARACTERISTICS OF CULTURALLY DIFFERENT YOUTH** 3 credits
Study of characteristics of culturally different youth with focus on youth in low-income areas. Emphasis on cultural, social, economic and educational considerations and their implications.
- 483/583 PREPARATION FOR TEACHING CULTURALLY DIFFERENT YOUTH** 3 credits
Designed to help prepare trainees to teach culturally different youth from low-income backgrounds. Through use of multimedia 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 in the bilingual/multicultural classroom. The bilingual student's native language, culture stresses.
- 486/586 TEACHING MATHEMATICS, SOCIAL STUDIES AND SCIENCE TO BILINGUAL STUDENTS** 3 credits
Prerequisites: elementary education majors, 5200.333, 336, 338; for secondary education majors, 5300.311 (science, social studies or mathematics). Course applies methodologies for teaching mathematics, science, social studies in the bilingual/multicultural classroom. The bilingual student's native language stressed.
- 487/587 TECHNIQUES FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN THE BILINGUAL CLASSROOM** 4 credits
Prerequisite: permission of instructor. Course includes teaching language skills to Limited English Proficient students in grades K-12, administration of language assessment tests, selection and evaluation of materials.
- 490/590 WORKSHOP: BILINGUAL/MULTICULTURAL** 1-3 credits
Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques

EDUCATIONAL ADMINISTRATION

5700:

- 480 SPECIAL TOPICS: EDUCATIONAL ADMINISTRATION** 1-4 credits
(May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.
- 490,1,2,3/590,1,2,3 WORKSHOP** 1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
- 494/594 EDUCATIONAL INSTITUTES** 1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

SCHOOL PSYCHOLOGY

5620:

- 490/590 WORKSHOP** 1-2 credits
Prerequisite: permission of instructor. Opportune topical experience provided periodically as needed and/or as resources become available.

SPECIAL EDUCATIONAL PROGRAMS

5800:

- 490/590 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES** 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.
- 491/591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE** 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.
- 492/592 WORKSHOP IN READING** 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.
- 493/593 WORKSHOP ON EXCEPTIONAL CHILDREN** 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.
- 494/594 INTERNATIONAL SCHOOL STUDY** 3-6 credits
On-the-scene study of education in foreign countries, usually by concentrating on the study of schools in one restricted geographical area.

EDUCATIONAL TECHNOLOGY

5850:

- 100 INTRODUCTION: PUPIL PERSONNEL WORK** 2 credits
Purposes, needs, scope, character of pupil personnel services.
- 201 INFORMATIONAL SERVICES IN GUIDANCE AND SPECIAL EDUCATION** 2 credits
Emphasis on organization and status of informational services as related to activities of educational technologist.
- 204 HUMAN RELATIONS IN EDUCATION** 3 credits
Study of individual and group relationships in educational setting including development of basic interpersonal skills.
- 207 MECHANICS OF STUDENT APPRAISAL** 3 credits
Introduction to group appraisal with major emphasis on assisting certified personnel in group test administration, scoring, organizing and recording test results.
- 213 ORIENTATION OF THE EDUCATIONAL TECHNICIANS TO THE SECONDARY SCHOOL** 2 credits
Designed to provide student preparing for role of educational technician with framework for understanding secondary education.
- 260 SPECIAL EDUCATION TECHNOLOGY** 2 credits
Survey of selected procedures and materials employed in classrooms especially designed and operated for exceptional children.
- 295 EDUCATION TECHNICIAN FIELD EXPERIENCE** 5 credits
(May be repeated once) Supervised field experience in school setting designed for educational technician enrollees only.

College of Business Administration

COOPERATIVE EDUCATION

6000:

- 301 COOPERATIVE EDUCATION** 0 credits
(May be repeated) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

ACCOUNTANCY

6200:

- 201 ACCOUNTING I** 4 credits
Prerequisite: 24 hours of college credit. Introduction to accounting, the language of business. Emphasis on basic principles, concepts and terminology of accounting for assets, liabilities and proprietorship.
- 202 ACCOUNTING II** 4 credits
Prerequisite: 201. Study of accounting informational needs of management. Emphasis on planning and control, including financial statement analysis, funds flow, budgets, cost-volume-profit analysis and decision-making costs.
- 301 COST ACCOUNTING** 3 credits
Prerequisites: 3250; 202 and grades of not less than "C" in 201, 202. Introduction to product costing, emphasizing analysis of materials, labor and factory overhead. Cost control achieved through use of flexible budgets, standard costs and variance analysis.
- 317 INTERMEDIATE ACCOUNTING I** 4 credits
Prerequisites: grades of not less than "C" in 201, 202. Accounting theory and problems of statement preparation; in-depth study of cash, temporary investments, receivables, inventories, tangible fixed assets, intangibles and current liabilities.
- 318 INTERMEDIATE ACCOUNTING II** 4 credits
Prerequisite: 317. Study of long-term liabilities and investments, capital stock, retained earnings, accounting changes, funds statement, pensions, leases, statement analysis and price-level accounting.
- 355 ACCOUNTING INFORMATION PROCESSING** 3 credits
Prerequisite: 202. Introduction to automatic data processing systems in an accounting and management environment. Fundamentals of computer programming presented to student.
- 360 BUDGETING** 3 credits
Prerequisite: 301. Study of principles and policies of budgeting. Emphasis on managerial control of expenses, capital expenditures and related activities.
- 401 ACCOUNTING SURVEY** 3 credits
Prerequisite: permission of instructor. Introductory course for student with no previous accounting background. Essential accounting concepts, techniques and terminology for business organizations.
- 402 ADVANCED COST ACCOUNTING** 3 credits
Prerequisite: 301. Study of use of standard cost procedures, job-order costing procedures and advanced problems in area of cost accounting.
- 410 TAXATION FOR THE NON-ACCOUNTANT** 3 credits
Provides non-accountant basic knowledge of federal tax law as applied to individuals and businesses. Not open to accounting major.
- 420/520 ADVANCED ACCOUNTING** 3 credits
Prerequisite: 318. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, nonprofit entities and consolidated statements.
- 425 CURRENT DEVELOPMENTS IN ACCOUNTING** 3 credits
Prerequisite: 318. Official pronouncements of Accounting Principles Board, Financial Accounting Standards Board and Securities and Exchange Commission, and other current developments in accounting theory. Essential for C.P.A. preparation.
- 430/530 TAXATION I** 4 credits
Prerequisite: 317. Application of current federal tax law to individuals and proprietorships. Types of income, deductions and structure of tax return covered. Master of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.
- 431/531 TAXATION II** 3 credits
Prerequisite: 430/530. Application of current federal tax law to partnerships, corporations, trusts, estates and gifts. Social security taxes and Ohio income, sales and personal property taxes discussed.
- 440/540 AUDITING** 4 credits
Prerequisites: 301, 318, 355 and 6500:322 must be taken prior to or concurrently; or permission of instructor. Examines auditing standards and procedures used by independent auditor in determining whether a firm has fairly represented its financial position.
- 454 INFORMATION SYSTEMS** 3 credits
Prerequisites: 202, 355 or permission of instructor. Focus on development of accounting methods and procedures, installation and improvement of accounting systems and evaluation of automated data processing systems. This course cannot be taken in lieu of 6500:324 Data Management for Information Systems.

- 460 ADVANCED MANAGERIAL ACCOUNTING** 3 credits
Prerequisites: 301 and 6400:371. The use of financial and non-financial information in decision making in both public and private sectors. Problem solving approach is emphasized.
- 470/570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING** 3 credits
Prerequisites: 201 or 601, and either senior- or graduate-level standing. Theory and procedures involved in application of fund accounting, budgetary control, appropriations and various accounting systems to governmental units, educational, medical and other nonprofit institutions.
- 480/580 ACCOUNTING PROBLEMS** 3 credits
Prerequisite: 318. Independent research on advanced accounting problem in student's specific area of interest.
- 485 CPA PROBLEMS: COMMERCIAL LAW** 2 credits
Prerequisite: permission of instructor. Deals with those general principles of commercial law which appear on CPA examination.
- 486 CPA PROBLEMS: ACCOUNTING PRACTICE** 3 credits
Prerequisite: permission of instructor. Study of methods for solving various types of problems which appear on accounting practice section of CPA examination.
- 487 CPA PROBLEMS: TAXATION** 1 credit
Prerequisite: permission of instructor. Application of current developments in federal income tax law to CPA examination.
- 488/588 CPA PROBLEMS: AUDITING** 2 credits
Prerequisite: 440/540 or permission of instructor. Preparation for auditing section of CPA examination, focusing on auditing principles, standards and ethics and situations encountered by independent auditor.
- 489/589 CPA PROBLEMS: THEORY** 2 credits
Prerequisite: permission of instructor. Preparation for theory section of CPA examination, focusing on current developments and use of basic accounting theory to solve advanced accounting problems.
- 491/591 WORKSHOP IN ACCOUNTING** 1-3 credits
(May be repeated) Prerequisite: permission of instructor. Group study of accounting under faculty guidance. May not be used to meet undergraduate or graduate accounting major requirements, but may be used for elective credit only with permission of instructor or department.
- 495 INTERNSHIP IN ACCOUNTING** 3 credits (credit/non-credit)
Prerequisite: permission of instructor. On-the-job training for student in field of public, industrial or nonprofit accounting. Individual assignments made by supervising faculty member.
- 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 accounting approved and supervised by member of the department faculty.
- 499 INDEPENDENT STUDY IN ACCOUNTING** 1-3 credits
Prerequisite: permission.

FINANCE

6400:

- 220 LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS** 4 credits
Gives student an understanding of legal reasoning and analysis. Discussions include court and procedures, business organizations, commercial transactions and legal aspects of government regulation of business.
- 318 RISK MANAGEMENT AND INSURANCE** 3 credits
Prerequisite: 371 or permission of instructor. Concept of risk and risk management and principle of insurance are developed in business. Life and health insurance related to employee benefit problems.
- 321 BUSINESS LAW I** 3 credits
Discussions designed to develop legal reasoning within substantive areas of contractual obligation, agency relationships, partnerships, corporations, accountant's legal responsibility, federal securities regulation and antitrust law.
- 322 BUSINESS LAW II** 3 credits
Applications of Uniform Commercial Code in sales, commercial paper and secured transactions. Additional discussions include property, wills, estates, trusts, bailments, insurance, suretyship, bankruptcy, and labor law.
- 323 INTERNATIONAL BUSINESS LAW** 3 credits
The law and international commercial transactions. Among the subjects covered are sovereignty; treaties; agreements; antitrust practices; property rights; international arbitration.
- 338 FINANCIAL INTERMEDIARIES** 3 credits
Prerequisite: 371 or permission of instructor. Studies the flows of funds. Analyzes major financial intermediaries. Money and capital markets reviewed with emphasis on interest rates and their impact upon administration of specific financial intermediaries.
- 343 INVESTMENTS** 3 credits
Prerequisite: 371 or permission of instructor. Range of security investment media explored, alternative investment programs considered and role of securities markets through which goals can be achieved studied.
- 371 BUSINESS FINANCE** 3 credits
Prerequisites: 6200: 201, 202; 3250: 201, 202, and completion of collegiate mathematics requirement. Study of problems of business firm from financial manager's viewpoint. Topics include planning, sources and uses of funds, capital budgeting and optimum financial structure.
- 373 FINANCIAL STATEMENT ANALYSIS** 3 credits
Prerequisite: 371 or permission of instructor. Analysis and interpretation of the financial position and performance of the business firm from the perspective of the credit and financial analyst. Emphasizes mechanics and art of financial analysis.
- 400 REAL ESTATE PRINCIPLES: A VALUE APPROACH** 3 credits
Prerequisite: 371 or permission of instructor. A study of real estate: the profession, the process and the product. Emphasis is on real estate as a product and the valuation process. The measurement of value requires tool abilities in accounting, statistics and finance.
- 401 REAL ESTATE INVESTMENT** 3 credits
Prerequisites: 371 and 400, or permission of instructor. Advanced course in real estate investment which covers investing in all types of real estate including single-family mortgages and creative investment techniques for income properties.

- 402 INCOME PROPERTY APPRAISAL** 3 credits
Prerequisites: 371 and 400, or permission of instructor. Advanced course in real property appraisal and valuation. Techniques and concepts will be covered along with the theory underlying such techniques.
- 403 REAL ESTATE FINANCE** 3 credits
Prerequisites: 371 and 400 or permission of instructor. Advanced course in real estate covering the financing of real property. Included are methods, institutions, instruments, valuation, appraisal and policy in real estate finance.
- 417 LIFE AND HEALTH INSURANCE** 3 credits
Prerequisite: 318. Detailed study of life and health insurance contracts, insurance companies, industry regulations.
- 419 PROPERTY AND LIABILITY INSURANCE** 3 credits
Prerequisite: 318. A study of property and casualty insurance contracts, insurance companies, industry regulation.
- 424 LEGAL CONCEPTS OF REAL ESTATE: A MANAGERIAL APPROACH** 3 credits
Prerequisite: 371 or permission of instructor. Study of concepts of law governing the many interests in real estate including acquisition, encumbrance, transfer, rights and obligations of parties, and the various state and federal regulations. The legal concepts of the business of real estate are likewise examined. Emphasis is on a managerial approach utilizing the case method.
- 425 BUSINESS AND SOCIETY** 3 credits
Prerequisite: senior standing. Conceptual course considers financial, economic, legal and sociopolitical implications of business in society. Issues related to economic and legal framework for business decisions.
- 432 PERSONAL FINANCIAL PLANNING** 3 credits
Prerequisite: 371 or permission of instructor. Capstone financial services course emphasizing theory and case study applications of the comprehensive personal and professional planning process.
- 436 COMMERCIAL BANK MANAGEMENT** 3 credits
Prerequisite: 338 or permission of instructor. Study of administrative policy determination and decision making within the commercial bank. Analyses of policy making in areas of liquidity, loan and security investment and sources of funds.
- 447 SECURITY ANALYSIS** 3 credits
Prerequisite: 343 or permission of instructor. Application of quantitative and qualitative techniques of analysis to limited income and equity securities. Timing changes in portfolio composition.
- 475 COMMERCIAL AND CONSUMER CREDIT MANAGEMENT** 3 credits
Prerequisite: 371 or permission of instructor. An examination of the role of credit; the application, investigation, authorization, collection and legal processes principally from the point of view of the business manager.
- 479 ADVANCED BUSINESS FINANCE** 3 credits
Prerequisite: 371 or permission of instructor. Case method utilized, emphasizing application of analytical techniques from texts and journal readings to solution of complex problems in financial management.
- 481 INTERNATIONAL BUSINESS FINANCE** 3 credits
Prerequisite: 371 or permission of instructor. Theory and practice of financial wealth maximization in the international business enterprise.
- 481/591 WORKSHOP IN FINANCE** 1-3 credits
(May be repeated) Group studies of special topics. May not be used to meet undergraduate or graduate major requirements in finance. May be used for elective credit only with permission of instructor or department.
- 495 INTERNSHIP IN FINANCE** 1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and term papers required as appropriate.
- 497 HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. Individual senior honors thesis or creative project relevant to finance approved and supervised by member of the department faculty.
- 499 INDEPENDENT STUDY: FINANCE** 1-3 credits
Prerequisite: permission of department head. Provides means for individualized in-depth study of finance problem or problems from which student can derive significant benefit.
- 425 ANALYSIS AND DESIGN OF INFORMATION SYSTEMS** 3 credits
Prerequisite: 323. An introduction to computer-based information systems with special emphasis on analysis design, implementation and maintenance. (Cannot be taken in lieu of 6200:454.)
- 331 PRODUCTION AND SYSTEMS MANAGEMENT** 3 credits
Prerequisite: 301; corequisite: 321. Emphasis on design, analysis of operating systems, utilizing scientific decision-making methodology. Case exercises, project.
- 332 PRODUCTION AND OPERATIONS MANAGEMENT** 3 credits
Prerequisites: 323, 331; corequisite: 322. Introduces use of models for production scheduling, materials management, quality control, distribution and project management. Includes linear programming, PERT, simulation. Cases, exercises, problems, computer analysis.
- 341 PERSONNEL MANAGEMENT** 3 credits
Prerequisites: two courses in psychology, sociology and 301. Principles, policies, practices in administering functions of recruiting, selecting, training, compensating, appraising human resources of organizations.
- 342 LABOR RELATIONS** 3 credits
Prerequisite: 341. Analysis of management, union and employee objectives, attitudes and strategy, as they affect conduct of business and economy. Stress placed on group assigned readings and reports.
- 407 SMALL BUSINESS MANAGEMENT** 3 credits
Prerequisite: senior standing. Focuses on problems of organizing and operating a small business. Case studies and field experiences.
- 408/508 ENTREPRENEURSHIP** 3 credits
Prerequisites: upper-college or graduate standing and 301 or 600 or equivalent. Examines the behavior and environment for entrepreneurship. Focuses on classic and contemporary entrepreneurs and the importance of personal values and strategies. Case studies. Field projects.
- 410/510 SELECTED TOPICS IN ENTREPRENEURSHIP** 1-3 credits
Prerequisites: upper-college or graduate standing and 301 or 600 or equivalent. Facilitates comparative international study of entrepreneurship, introduction of entrepreneurship to large organizations, or application of student's entrepreneurial skills. Six hour limit.
- 412/512 DEVELOPMENT OF MANAGEMENT THOUGHT** 3 credits
Prerequisites: upper-college or graduate standing and 301, or 600 or equivalent. Review of development of managerial theories from 5000 B.C. to present with consideration of their application to present organizational settings.
- 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.
- 425 DECISION SUPPORT SYSTEMS** 3 credits
Prerequisite: 324. May not be taken in place of 6200:454. Introduction to decision support systems design including applications in various functional areas. Projects may use BASIC, electronic spreadsheets, database and/or decision support system software.
- 433 BUSINESS OPERATIONAL PLANNING** 3 credits
Prerequisites: 322, 332. Application of quantitative techniques for planning overall operations of firm. Emphasis given to external-internal factors, which influence short- and long-run economic success of firm.
- 434 PRODUCTION PLANNING AND CONTROL** 3 credits
Prerequisites: 322, 332. Forecasting, materials management, production planning, scheduling, control. Integrates previous courses, provides overall framework including use of computer and quantitative methods. Cases and a project in an operating organization.
- 435 QUALITY CONTROL** 3 credits
Prerequisite: 322. Emphasis on statistical techniques essential to controlling product quality for both measurement and attribute data. Includes control chart methods and acceptance sampling plans.
- 436 ADVANCED QUALITY CONTROL APPLICATIONS** 3 credits
Prerequisites: 322 and 435. Applications of advanced topics including exponential and cusum charts, experimental design, evolutionary operations (EVOPS), planned experimentation (PLEX) and management of the quality function.
- 437 SPECIAL TOPICS IN QUALITY MANAGEMENT** 3 credits
Prerequisites: 435 and permission of instructor. Exploration of advanced topics of interest both to the student and professor. Many special applications, case studies, outside speakers, projects in conjunction with local industries.
- 438 PRODUCT QUALITY DESIGN TECHNIQUES** 3 credits
Prerequisites: 322 and 435. Describes the techniques of designing quality into a product. It includes determining customer needs, Taguchi methods of quality loss functions and experimental design, reliability and service.
- 442 COMPENSATION MANAGEMENT** 3 credits
Prerequisite: 341. Focus on the design, implementation and evaluation of employee compensation and benefits programs.
- 443 ADVANCED PERSONNEL MANAGEMENT** 3 credits
Prerequisite: 341. Advanced study of current issues and problems in field of personnel. Emphasis given to current literature and research. Activities may include projects, library research, case studies.
- 455/555 MANAGEMENT OF ARBITRATION: COMMERCIAL, INTERNATIONAL AND HUMAN RESOURCES** 3 credits
Prerequisites: upper-college or graduate standing and 301 or 600 or equivalent. A comprehensive study of managerial strategies for commercial, international and human resource arbitration. Graduate requirement: research paper.
- 457 INTERNATIONAL MANAGEMENT** 3 credits
Prerequisites: upper-college standing and 301 or equivalent. Management practices and techniques of international business organizations. Focus on structure and processes of resource allocation, design and technology, and the impact of culture.
- 458 SELECTED TOPICS IN MANAGERIAL ARBITRATION, MEDIATION AND CONCILIATION** 1-3 credits
Prerequisites: upper-college or graduate standing and 301 or 600 or equivalent. Study of the various methods and mechanisms by which management can understand and deal with internal and external conflict. Six-hour limit.
- 459 SELECTED TOPICS IN INTERNATIONAL MANAGEMENT** 1-3 credits
Prerequisites: upper-college standing, 301 or equivalent, and 457; or permission of instructor. Selected topics in international management focus on historical or contemporary managerial, production and organizational issues. Includes international simulation game. Six hour limit.

MANAGEMENT

6500:

- 301 MANAGEMENT: PRINCIPLES AND CONCEPTS** 3 credits
Prerequisites: Three credits in behavioral science, economics, mathematics. Theory, practice in management of human, other economic resources, with extensive coverage of operations systems.
- 302 INTRODUCTION TO ORGANIZATIONAL BEHAVIOR** 3 credits
Prerequisites: 301 and two courses in psychology, sociology. Investigation of applications of behavioral and social sciences as they relate to individual, group behavior in organizations.
- 321 QUANTITATIVE BUSINESS ANALYSIS I** 3 credits
Prerequisite: completion of collegiate mathematics requirement. Statistical analysis of business data including coverage of probability theory, probability distributions, sampling, estimation, hypothesis testing.
- 322 QUANTITATIVE BUSINESS ANALYSIS II** 3 credits
Prerequisite: 321. Statistical analysis of business data including analysis of variance, regression and correlation, time series, index numbers, distribution-free statistics, Bayesian decision making.
- 323 COMPUTER APPLICATIONS FOR BUSINESS** 3 credits
Prerequisite: 3460:126; 2440:130; 2440:266; or permission of instructor. Introduces analysis and design of information systems. Provides hands-on experience with microcomputer applications such as spreadsheets, graphics and database management using integrated spreadsheet software.
- 324 DATA MANAGEMENT FOR INFORMATION SYSTEMS** 3 credits
Prerequisites: upper-college standing and proficiency in the BASIC programming language or approval of instructor. Developing business application systems using BASIC and database management systems software, including sequential and random files, finding and arranging records, and database management systems applications.

- 471/571 MANAGEMENT PROBLEMS** 3 credits
(Student who has earned credit in 471 is ineligible to register for or earn credit in 472, 473.) Prerequisites: 332 or 342 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 471,3.) 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 471,2.) 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 (Students who are required to take 301 or 600 or have completed 301 or 600 or equivalent are ineligible to take this course for credit). Introductory 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 organization, and (c) principles and techniques of decision making, planning, organizing and controlling in health-care setting. For those registered for graduate credit, a major research paper is required.
- 482/582 HEALTH SERVICES OPERATIONS MANAGEMENT** 3 credits
Prerequisites: upper-college standing and 301 or 480 and 322 and 323 or equivalents or graduate standing and 580 or 600 or equivalent and 601 or 602 or equivalents or permission of instructor. (Students who have completed 331 are ineligible to take this course for credit). Application of production and operations management concepts and techniques in health services organizations.
- 485/585 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION** 1-3 credits
Prerequisite: permission of instructor. Special topics in health services administration (e.g., management) focusing on historical and/or contemporary managerial organizational and/or policy/strategy issues as related to health-care organizations and health-care systems. Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required.
- 490 BUSINESS POLICY** 4 credits
Prerequisites: senior standing (97 credits) and 301; 6200:202; 6400:371; 6600:300; and corequisites: 322; 6200:355; or 6500:323; and 6400:320 or 321, 322. Integrates the core business disciplines (accounting, economics, finance, management, marketing) through the use of case analyses. Student evaluates objective and strategy formulation from an administrative viewpoint.
- 491 WORKSHOP IN MANAGEMENT** 1-3 credits
(May be repeated with permission of instructor or department) Group studies of special topics in management. May not be used to meet undergraduate major requirements in management. May be used for elective credits only.
- 495 INTERNSHIP IN MANAGEMENT** 1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports, 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 management approved and supervised by member of the department faculty.
- 499 INDEPENDENT STUDY: MANAGEMENT** 1-3 credits
Prerequisites: senior standing and permission of department head. Provides a means for individualized study in management from which student can derive significant value.

MARKETING 6600:

- 300 MARKETING PRINCIPLES** 3 credits
Prerequisites: 3250:201, 202 or permission. Investigates a broad range of marketing activities including market identification and analysis, product planning and development, and the strategies of pricing, promotion, and distribution.
- 310 BUYER BEHAVIOR** 3 credits
Prerequisites: 300 and a total of two courses from 3750 or 3850. 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.
- 340 PRINCIPLES OF RETAILING** 3 credits
Prerequisite: 300. Survey of the basic concepts and principles of retailing in terms of store organization, store personnel, store facilities, market analysis, site selection, product mixes, retail buying, merchandise handling, inventory planning and control, retail pricing and promotions.
- 350 ADVERTISING AND MARKETING COMMUNICATIONS** 3 credits
Prerequisite: 300. Full range of marketing communication elements. Emphasis on role of each element and coordination required of marketing manager in developing successful and systematic program of marketing communications.
- 360 BUSINESS MARKETING MANAGEMENT** 3 credits
Prerequisites: 300. Examines organization/buyer behavior and the strategic marketing management of firms selling to business organizations, government agencies, or institutions.
- 370 PURCHASING** 3 credits
Prerequisite: 300. Process and activities associated with cost effective buying, internal management of all materials, equipment needed by manufacturer to produce product or provide a service.
- 375 PROFESSIONAL SELLING** 3 credits
Prerequisite: 300 or permission of instructor. Introductory course covering prospecting, establishing seller-buyer relationships, understanding customer needs, persuading, overcoming resistance, and closing sales.

- 380 SALES MANAGEMENT** 3 credits
Prerequisite: 300. Examines the process of organizing, selecting, training, motivating, and controlling a sales force.
- 385 INTERNATIONAL MARKETING** 3 credits
Prerequisite: 300 and 6800:305. Provides a basic understanding of the complexities of foreign marketing. It assumes knowledge of the basic international business course.
- 390 MANAGEMENT OF MARKETING CHANNELS** 3 credits
Prerequisite: 300. An integrative approach to analysis of marketing channels of distribution to complement the more specialized analyses of retailing, wholesaling and physical distribution. Stresses the interaction of firms comprising a channel and the nature of managerial decisions designed to coordinate the efforts of the group of institutions that make up a channel of distribution.
- 395 APPLICATIONS IN RETAILING MERCHANDISING** 3 credits
Prerequisite: 300. Practical retail applications in the planning and control of merchandise assortments, merchandise budgets, inventory systems, buying procedures, vendor relationships, and pricing practices.
- 400 STRATEGIC RETAIL MANAGEMENT** 3 credits
Prerequisites: 340 or 395. Integration of strategic and tactical retail decisions and issues through the use of case analyses, computer applications, experiential exercises, and field projects.
- 420/520 LOGISTICS SYSTEMS ANALYSIS** 3 credits
Prerequisite: 320. 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 ADVERTISING RESEARCH AND EVALUATION** 3 credits
Prerequisite: 350. The role and methods of research are studied as they relate to the planning of advertising campaigns, with attention to market analysis, competitor analysis, and copy and media planning. Post-campaign measurement of copy, media and marketing efficiencies and effectiveness are also included.
- 430 PROMOTIONAL CAMPAIGNS** 3 credits
Prerequisite: 350. Examination of total communications efforts involved in planning, developing and monitoring promotional campaigns. Stress is placed on understanding the nature and roles of advertiser, agency and support services.
- 440/540 PRODUCT PLANNING** 3 credits
Prerequisite: 300. In-depth study of tools and techniques involved in new product development process and management of the product 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
Prerequisites: 300, 6500:321. Through lectures, cases and team projects, a student is taught to detect and evaluate actionable forces in the marketplace. Emphasis on investigation appropriate to economics of situation.
- 465/565 FORECASTING AND QUANTITATIVE METHODS IN MARKETING** 3 credits
Prerequisites: 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.
- 475 INDUSTRIAL AND ORGANIZATIONAL SALES STRATEGY** 3 credits
Prerequisite: 375 and 380. Advanced study of current issues and problems in selling and sales management within the industrial and organizational market sector.
- 491 WORKSHOP IN MARKETING** 1-3 credits
Group studies in special topics in marketing. Not used to meet undergraduate or graduate major requirements in marketing. May be used for elective credit with permission of instructor or department.
- 495 INTERNSHIP IN MARKETING** 1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and term papers required as appropriate.
- 497 HONORS PROJECT** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. Individual senior honors thesis or creative project relevant to marketing, approved and supervised by member of the department faculty.
- 499 INDEPENDENT STUDY: MARKETING** 1-3 credits
Prerequisite: permission of instructor. Provides a means for individualized in-depth study of a marketing problem or problems from which student can derive significant benefit.

INTERNATIONAL BUSINESS 6800:

- 305 INTERNATIONAL BUSINESS** 3 credits
Prerequisites: 3250:201,202. A basic course in international business which can also provide a platform for more specialized international business courses.
- 405 MULTINATIONAL CORPORATIONS** 3 credits
Prerequisite: 305 or permission of instructor. Course provides in-depth understanding of the functions, structures and strategic considerations governing the MNCs through theory and case study analysis.
- 421 INTERNATIONAL BUSINESS PRACTICES** 3 credits
Prerequisite: 305. An examination and comparison of contemporary business practices around the world. Develops sensitivity to alternative business practices and includes a strong component of cross-cultural communications.
- 460 INTERNATIONAL BUSINESS RESEARCH** 3 credits
Prerequisites: 6600:300, 6800:305, 6500:321. Business research concepts applied to international environments; design of international marketing research; problems in collecting information; multi-country information analysis; development of international information systems.

College of Fine and Applied Arts

COOPERATIVE EDUCATION

7000:

- 301 COOPERATIVE EDUCATION** 0 credits
(May be repeated) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

ART

7100:

- 100 SURVEY OF HISTORY OF ART I** 4 credits
Architecture, sculpture, painting and minor arts from primitive sources through Gothic time period in Europe.
- 101 SURVEY OF HISTORY OF ART II** 4 credits
Prerequisite: 100. Architecture, sculpture, painting and minor arts from Renaissance through 1960s, primarily in Western art. Development of photography and its application as art form integrated into artistic styles of 20th 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. No credit toward major in art.
- 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.
- 132 INSTRUMENT DRAWING** 3 credits
Creative uses of mechanical drawing processes for visually descriptive purposes. Proficiency in use of mechanical drawing instruments stressed. Both practical and theoretical drawing styles undertaken.
- 140 FUNDAMENTALS OF ACRYLIC PAINTING** 3 credits
A study of the acrylic painting medium through lecture, demonstration and study activity. An exploration and enrichment opportunity for the non-art major. No credit toward a major in art.
- 144 TWO-DIMENSIONAL DESIGN** 3 credits
Fundamental information about the theory and practice of visual design as applied to surfaces, including composition, color and pictorial illusions with 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 a major in art.
- 184 INTRODUCTION TO GRAPHIC DESIGN** 3 credits
Prerequisite: 131. Studio experience in use of tools and materials of commercial graphic artist. Elementary design problems in commercial graphic design.
- 185 COMPUTER GRAPHICS FOR ART I** 3 credits
(May be repeated for a total of six credits) Prerequisites: 131 and 144 or 286 or 2240.124 or permission of instructor. Introduction to the use of microcomputers as a creative tool for visual artists and designers.
- 190 FUNDAMENTALS OF OFF-LOOM WEAVING** 3 credits
A study of off-loom weaving through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward a major in art.
- 191 DESIGN** 2 credits
Basic principles of creative design and color theory. Discussion and studio. No credit toward major or teaching field in art.
- 213 INTRODUCTION TO LITHOGRAPHY** 3 credits
Prerequisites: 131, 144 or 231. Use of lithographic stone and metal plate as printmaking media. Stone and plate preparation, lithographic drawing materials and techniques, paper registration and printing press covered. Emphasis on aesthetic theory, technique and related history.
- 214 INTRODUCTION TO SCREEN PRINTING** 3 credits
Prerequisites: 131, 144 or 231. Silk screen printmaking. Theory and use of stencil process, positive and negative block-out techniques, photo stencil, registration and printing procedures. Emphasis on aesthetic theory, technique and related history.
- 215 INTRODUCTION TO RELIEF PRINTING** 3 credits
Prerequisites: 131, 144 or 231. Printmaking using found objects, synthetic materials, as well as traditional woodcut and linoleum engraving. Emphasis on aesthetic theory, technique and related history.
- 216 INTRODUCTION TO INTAGLIO PRINTING** 3 credits
Prerequisites: 131, 144 or 231. Intaglio printmaking using drypoint engraving, aquatint and soft-ground techniques. Emphasis on aesthetic theory, technique and related history.
- 221 DESIGN APPLICATIONS** 3 credits
Prerequisite: 121. Application of creative designing principles to problems of utilitarian function in human-designed and -produced items. May include product design/prototype development, furniture design and construction, display design, etc.
- 222 INTRODUCTION TO SCULPTURE** 3 credits
Prerequisite: 121. Exploration of aesthetic factors influencing sculptural statements. Development of proficiency in the use of tools, materials and techniques.
- 231 DRAWING II** 3 credits
Prerequisite: 131. Continuation of 131. In-depth exploration of wide range of techniques and media. Attention to controlled descriptive drawing and space illusion and their aesthetic applications.
- 233 LIFE DRAWING** 3 credits
Prerequisite: 131. Perceptual problems in drawing from the life model. Study of skeletal, muscular, mechanical nature of human figure and application of this knowledge to the resolution of aesthetic problems.
- 244 COLOR CONCEPTS** 3 credits
Prerequisites: 144 or 286 or 2240.124 and 7100.131. Lecture and studio experience giving information concerning perception of color, additive color phenomena of light, subtractive color phenomena of pigments and dyes, color notation systems and psychological effects of color.
- 245 INTRODUCTION TO POLYMER ACRYLIC PAINTING** 3 credits
Prerequisites: 131, 144. Technical, aesthetic problems involved in polymer acrylic painting. Student pursues, through lecture and experimentation, transparent and opaque uses of this water-based paint.
- 246 INTRODUCTION TO WATERCOLOR PAINTING** 3 credits
Prerequisites: 131, 144. Studio course in theory and technique of watercolor painting. Study of traditional transparent watercolor methods, and experimentation with less conventional approaches to aqueous media.
- 247 INTRODUCTION TO OIL PAINTING** 3 credits
Prerequisites: 131, 144. Study of technical and aesthetic problems involved in oil painting. A painterly orientation toward plasticity of form as mediated by color.
- 248 INTRODUCTION TO AIRBRUSH PAINTING** 3 credits
Prerequisites: 131, 144, or for graphic design majors, 286. A beginning studio course in the airbrushing medium concerned with design, observation and critical analysis of art.
- 249 FIGURE PAINTING** 3 credits
Prerequisites: 233; 248. Painting course with an emphasis on painting the figure from life.
- 254 INTRODUCTION TO CERAMICS** 3 credits
Studio/lecture course exploring potentials of hand-building techniques in both sculptural and functional forms. Clay processing, glaze application and practical kiln firing.
- 266 INTRODUCTION TO METALSMITHING** 3 credits
Prerequisite: 121, 144, or for graphic design majors, 286. Studio experience in which student is introduced to properties of metals, processes of silversmithing and design and production of jewelry.
- 268 COLOR IN METALS** 3 credits
Prerequisite: 266. Introduction to a variety of techniques to achieve and/or combine color in metals. Techniques such as anodizing aluminum, enameling and the application of color resins and plastics will be explored.
- 275 INTRODUCTION TO PHOTOGRAPHY** 3 credits
Prerequisites: 131, 144, or 2240.124. 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.
- 283 DRAWING TECHNIQUES** 3 credits
Prerequisites: 131 and 132. Includes advanced drawing and presentation techniques commonly used in graphic design. Various presentation and design problems will be encountered stressing use of selected drawing methods and processes.
- 285 COMPUTER GRAPHICS FOR ART II** 3 credits
(May be repeated for a total of six credits) Prerequisite: 185 or permission of instructor. A follow up to Computer Graphics for Art I. High resolution imaging in both fine art and commercial applications.
- 286 COMMERCIAL DESIGN THEORY** 3 credits
Prerequisites: 184 and 132. Basic course in visual problem solving emphasizing visual movements in, and graphic elements of, single as well as multiple images. Equal emphasis given to existing and created images.
- 288 LETTERFORM 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 FIBER ARTS** 3 credits
Studio/lecture course exploring traditional and nontraditional fiber form, on-loom and off-loom techniques, with emphasis on aesthetics and history of fibers.
- 300 ART SINCE 1945** 3 credits
Prerequisite: 101 or permission of instructor. Consideration of significant developments in visual art forms since World War II in architecture, sculpture, printing, photography, metal, textile, ceramics, printmaking and graphic design.
- 302 ART IN EUROPE DURING THE 17TH AND 18TH CENTURIES** 3 credits
Prerequisite: 101 or permission of instructor. Analysis of major European examples of architecture, landscape design, painting, prints and sculpture from beginning of the 17th 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 13th through 16th Centuries.
- 304 ART IN EUROPE DURING THE 19TH 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) Prerequisite: 213 or 214 or 215 or 216 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 SCULPTURE II** 3 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 III** 3 credits
Prerequisites: 144, 231, 233. Continues concerns of visual organization and technical proficiency with materials begun in 131 and 231, but places more emphasis on use of imagination and development of ideas in drawing.
- 333 ADVANCED LIFE DRAWING** 3 credits
(May be repeated for a total of six credits) Prerequisites: 231, 233. Studio course in drawing from human figure. Individual interpretation of human figure, using numerous media and drawing techniques. Emphasis on aesthetic structure and formal realization of personal intention.
- 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: 245, 246 or 247 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. Experiments in glaze chemistry and firing experience with both gas and electric kilns. Emphasis on technique, studio procedures and critical evaluation of each student's progress.
- 368 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 COLOR IN METALS II** 3 credits
(May be repeated for a total of nine credits) Prerequisite: 268. Continuation of 268. Advanced projects designed to develop the student's aesthetic values in color in metals. Emphasis on individual approach and experimentation.
- 375 PHOTOGRAPHY II** 3 credits
Prerequisite: 275. Projects utilizing photographic media and tools designed to expand student's awareness of visual qualities and order, both in the subject and photographic image. Student must own or have use of camera with controllable shutter, lens, diaphragm, focus and exposure meter.
- 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 photoabstractions.
- 380 GRAPHIC VIDEO** 3 credits
Prerequisites: junior standing in graphic design or mass media-communication and permission of instructor. Study of applied video technologies as related to visual design principles and visual communication concepts in the design and use of graphic imagery.
- 385 COMPUTER GRAPHICS FOR ART III** 3 credits
Prerequisites: 285, 121. Advanced computer imaging course with an emphasis in three-dimensional modeling and animation. Can be repeated for a total of 9 credits.
- 386 PACKAGING DESIGN** 3 credits
Prerequisite: 387 or permission of instructor. Synthesis of two- and three-dimensional visual thinking. Research in materials applicable to packaging of various products. Assignment of projects stressing development of conventional and experimental package design.
- 387 ADVERTISING LAYOUT DESIGN** 3 credits
Prerequisites: 275, 288. Creative exploration of problems in visual merchandising. Projects offer exercises in developing skills from concept through final comprehensive presentation.
- 388 ADVERTISING PRODUCTION AND DESIGN** 3 credits
Prerequisites: 387 and either 2240:222 or 375. Continuation of 387. More complex projects with emphasis given to mechanical preparation of finished art for various printing processes.
- 393 WEAVING II** 3 credits
(May be repeated for a total of nine credits) Prerequisite: 293. Continuation of 293. Development of the techniques of spinning and twill weaving. Emphasis upon either aesthetic considerations or commercial preparation techniques, depending upon the student's intended application.
- 400/500 ART IN THE UNITED STATES BEFORE WORLD WAR II** 3 credits
Prerequisite: 101 or permission of instructor. Consideration of development of art in the United States from earliest evidences to approximately World War II.
- 401 SPECIAL TOPICS IN HISTORY OF ART** 1-3 credits
(May be repeated for credit when a different subject or level of investigation is indicated) Prerequisites: 100, 101 or permission of instructor. Lecture course in which subject is specified each time course is offered. Focuses upon an art movement, time period, the production of a single artist or a specific art medium.
- 405/505 HISTORY OF ART SYMPOSIUM** 1-3 credits
(May be repeated for credit when a different subject is indicated) Prerequisite: one art history course beyond 100,1 or permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem.
- 418 ADVANCED PRINTMAKING** 3 credits
(May be repeated for a total of 12 credits) Prerequisites: 121, either 245 or 246 or 247, 317 in the appropriate process, and 375. Lectures, demonstrations and experiments with more sophisticated printmaking techniques and applications. Concentration in one process designated by letter as follows: A. Lithography, B. Serigraphy, C. Relief, D. Intaglio.
- 422 ADVANCED SCULPTURE** 3 credits
(May be repeated for a total of nine credits) Prerequisite: 322. Development of individual points of view and sculptural statements.
- 431 DRAWING IV** 3 credits
(May be repeated for a total of nine credits) Prerequisites: 121, 132, 331. In-depth study of drawing for advanced art student. Emphasis on interpretive and inventive drawing using widest possible range of media and techniques.
- 449 ADVANCED PAINTING** 3 credits
(May be repeated for a total of nine credits) Prerequisites: 121, 231, 233, 348 in the appropriate medium. Advanced-level painting course. Opportunity to explore polymer acrylic, oil or watercolor painting techniques, and experiment with aesthetics of color, form and style. Concentration in one medium designated by letter as follows: A. Polymer Acrylic, B. Watercolor, C. Oil.
- 454 ADVANCED CERAMICS** 3 credits
(May be repeated for a total of 15 credits) Prerequisite: 354. Emphasis on refinement of technique toward personal aesthetic statement in preparation for professional or private studio production. Student may choose a general survey of subject matter or a more concentrated area of study.
- 455 FIBER, CLAY AND METAL SEMINAR** 2 credits
Prerequisite: permission of instructor. Open formal seminar designed to explore ideas in clay, fiber and metal art through reading, discussion and production.
- 466 ADVANCED METALSMITHING** 3 credits
(May be repeated for a total of 12 credits) Prerequisites: 283, 366. Investigation in depth of aesthetic and technical problems of metalsmithing. Student works on individual projects under guidance from instructor.
- 475 ADVANCED PHOTOGRAPHY** 3 credits
(May be repeated for a total of 12 credits) Prerequisites: 233, 376 and 3650:137. Photographic media, light and photographic equipment manipulated experimentally to produce creative graphic images. Student works under guidance of instructor on advanced individual projects.
- 480 ADVANCED GRAPHIC DESIGN** 3 credits
(May be repeated for a total of nine credits) Prerequisite: 388 or permission of instructor. Student works on advanced-level individual projects under supervision of instructor.
- 482 CORPORATE IDENTITY AND GRAPHIC SYSTEMS** 3 credits
Prerequisite: 388. Advanced projects in corporate identity, graphic systems analysis, design. Problem solving for these specific areas of graphic design within mechanical limitations of art reproduction.
- 484 ILLUSTRATION** 3 credits
Prerequisite: 283 or permission of instructor. Application of painting and drawing skills and aesthetic sensitivity to specific commercial illustration and editorial art assignments.
- 485 ADVANCED ILLUSTRATION** 3 credits
(May be repeated for a total of nine credits) Prerequisite: 484 or permission of instructor. Advanced projects designed to tune student's personal aesthetic to communicative imagery. A more individual approach to design. Drawing and painting emphasized as is experimentation with multimedia.
- 488 PUBLICATION DESIGN** 3 credits
Prerequisite: 482. Advanced research, design of promotional brochures, annual reports and other multipaged communicational print. Emphasis on total design from concept to camera-ready art. Individual approach to communicative graphics stressed. Portfolio development.
- 489 SPECIAL TOPICS IN STUDIO ART** 3 credits
(May be repeated for credit when a different subject or level of investigation is indicated) Prerequisite: advanced standing or permission of instructor. Group investigation of a particular phase of art not offered by other courses.
- 490/590 WORKSHOP IN ART** 1-4 credits
(May be repeated for credit when a different subject or level of investigation is indicated—490 to maximum of eight credits; 590 to maximum of 12 credits) Prerequisite: advanced standing in art or permission of instructor. Group investigation of a particular phase of art not offered by other courses in curriculum.
- 491/591 ARCHITECTURAL PRESENTATIONS I** 3 credits
Prerequisites: Junior level or permission. Studio practice in architectural design and presentation methods in residential and commercial interiors.
- 492/592 ARCHITECTURAL PRESENTATIONS II** 3 credits
Prerequisites: 491/591. Continuation of concepts covered in Architectural Presentations I with additional work in color rendering techniques. Emphasis on a variety of rendering mediums.
- 496 ART INTERNSHIP/PROFESSIONAL EXPERIENCE** 1-12 credits
(Repeatable for credit. No more than 12 credits of internship may apply toward the elective requirement for completion of any art department major.) Prerequisites: junior level in major program and permission of Internship Director. In-depth professional training affording the intern on-the-job experience in selected areas of specialization.
- 497/597 INDEPENDENT STUDIES** 1-3 credits
(May be repeated) Prerequisites for art majors: advanced standing in area chosen and permission of instructor. Prerequisite for non-art majors: permission of instructor. Investigation in depth of aesthetic and technical problems within a studio-selected area of specialization. Student must present in writing a proposed study plan and time schedule for instructor approval.
- 498/598 SPECIAL PROBLEMS IN HISTORY OF ART** 1-3 credits
(May be repeated for credit when a different subject or level of investigation is indicated) Prerequisites: 20 credits in art history and permission of instructor and department head. Individual research in art history centered around limited topic, such as specific time period, history of specific techniques, a single artist or movement in art history. No more than 10 credits will be counted toward major.
- 499 HONORS IN ART** 3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in the Honors Program and approval of honors project by faculty preceptor. To be used for research in the Honors Program established by student and his/her adviser(s).

HOME ECONOMICS AND FAMILY ECOLOGY

7400:

- 121 TEXTILES** 3 credits
Basic study of natural and manufactured fibers. Emphasis on physical properties, selection and care. Attention given to design and manufacture of textiles. Lecture/Laboratory.
- 123 FUNDAMENTALS OF CONSTRUCTION** 3 credits
Basic theory and application of construction fundamentals, including experiences with patterns and specialty fabrics.
- 132 EARLY CHILDHOOD NUTRITION** 2 credits
Emphasis on nutrition as component of Early Childhood programs. Nutrition principles discussed in relation to self and young children. 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.

- 133 NUTRITION FUNDAMENTALS** 3 credits
Study of basic nutrition concepts, contemporary issues, controversies; emphasis on macro/micro nutrient requirements for healthy individuals; analysis of intake and energy balance.
- 141 FOOD FOR THE FAMILY** 3 credits
Application of nutrition to meal planning; problems in selecting, budgeting and preparing food; meal service.
- 147 ORIENTATION TO PROFESSIONAL STUDIES IN HOME ECONOMICS AND FAMILY ECOLOGY** 1 credit
Survey of history and development of home economics with emphasis on professional and career opportunities.
- 158 INTRODUCTION TO INTERIOR DESIGN AND FURNISHINGS** 3 credits
Introduction to home furnishings involving topics such as furniture styles, utilization of space, color, lighting, wallcoverings, window treatments, floor coverings, furniture arrangement/selection and accessorizing. Lecture/laboratory.
- 159 FAMILY HOUSING** 3 credits
Study of housing alternatives related to stages in the family life cycle. Also overview of physical aspects of house: construction, financing, insulation, heating/cooling systems, wiring and kitchen design. Lecture/laboratory.
- 201 RELATIONAL PATTERNS IN MARRIAGE AND FAMILY** 3 credits
Study of familial interaction in various life styles with emphasis on self-concept, changing roles, developmental tasks, family life cycles and socioeconomic and cultural influence upon individual and family.
- 204 SURVEY OF APPLIED HOME ECONOMICS IN THE COMMUNITY** 1 credit
Directed study 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 generation of positive physical, mental and emotional health across individual and family life cycles. Emphasis on preventative strategies as well as home-care procedures.
- 219 CLOTHING COMMUNICATION** 3 credits
Study of cultural, social, psychological and economic aspects of clothing. Emphasis on expression and use of clothing in relation to self, society and culture. Lecture/discussion.
- 221 EVALUATION OF APPAREL AND HOUSEHOLD TEXTILES** 3 credits
Prerequisite: 121. Emphasis on product knowledge and the development of evaluation criteria useful in selecting apparel and household textiles.
- 239 THE FASHION INDUSTRY** 3 credits
Prerequisites: 121, sophomore standing. Overview of fashion industry including growth, promotion and impact of cultural influences. Review of international and American fashion scene. Lecture/discussion.
- 245 FOOD THEORY AND APPLICATION I** 3 credits
Prerequisites: 133, 3150:129 or permission of instructor. Scientific and aesthetic principles involved in the selection, storage and preparation of foods for optimum nutrition, palatability and safety. Lecture/Lab.
- 246 FOOD THEORY AND APPLICATION II** 3 credits
Prerequisite: 245. Study of chemical and physical structure of foods and the effects of natural changes, preparation and processing on properties and acceptability. Lecture/Laboratory.
- 255 FATHERHOOD: THE PARENT ROLE** 2 credits
Overview of development of stereotyped behavior as it affects the father role and his interactive relationship with other family members. Directives for family life education, research, theory and social policy.
- 265 CHILD DEVELOPMENT** 3 credits
Physical, cognitive, language, social, emotional, and personality development of the child from prenatal through age eight. Observation of children in early childhood educational settings.
- 270 THEORY AND GUIDANCE OF PLAY** 3 credits
Prerequisite: 265. Theory and guidance of play as primary vehicle and indicator of physical, intellectual, social, emotional development and learning of children from birth to kindergarten.
- 275 PLAY AND CREATIVE EXPRESSION ACTIVITIES** 4 credits
Prerequisite: 265. Importance of play in child's social, emotional, intellectual and physical growth. Encouragement of creativity in adults and children through planned experiences that provide for individual expression.
- 280 CREATIVE ACTIVITIES FOR PRE-KINDERGARTEN CHILDREN** 4 credits
Prerequisite: 265. Planning, presenting, evaluating creative activities in art, music, movement, language arts, logic-mathematics and science. Space, time, materials and adult-child interaction are emphasized.
- 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.
- 302 CONSUMERS OF SERVICES** 3 credits
A study of the services sector of the economy. Emphasis is on a framework for studying all service providers and in developing criteria for evaluating service providers.
- 303 CHILDREN AS CONSUMERS** 3 credits
Development of consumer education concepts for children grades K-8. Emphasis includes research data on children in the consumer role.
- 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 tailoring techniques. Two hours lecture, four hours laboratory.
- 310 FOOD SYSTEMS MANAGEMENT I** 5 credits
Prerequisites: 245; 6200:201 or 2420:211 or permission; corequisite: 315. Basic theoretical concepts in the management of dietetic food service systems and the practical application of principles and procedures in quantity food production and service.
- 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.
- 315 FOOD SYSTEMS MANAGEMENT I — CLINICAL** 2 credits
Prerequisite: 245; corequisite: 310. Development of quantity food preparation and supervisory skills in community agencies; identification of functions and resources involved in the management of food service systems.
- 316 SCIENCE OF NUTRITION** 4 credits
Prerequisites: 133, 3100:207, 3150:203. In-depth characterization of composition, metabolism, physiological functions and interrelationships 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 theatre with consideration of cultural forces that affected the development. Lecture.
- 328 NUTRITION IN MEDICAL SCIENCE I** 4 credits
Prerequisite: 316. Analysis of therapeutic health-care concepts. Consideration of nutritional implications of pathological conditions; construction of diets for specific disorders.
- 329 NUTRITION IN MEDICAL SCIENCE I — CLINICAL** 2 credits (credit/noncredit)
Prerequisites: 316, CUP student only; corequisite: 328. Clinical experiences in area hospitals for application of principles of nutritional care learned in 328.
- 340 MEAL SERVICE** 2 credits
Prerequisites: 245 or 141. Management of resources in relation to marketing, meal preparation and service; appropriate forms of service for various types of meals. Preparation of foods from various parts of the world.
- 360 PARENT-CHILD RELATIONS** 3 credits
Prerequisite: 265. The study of interactive parent-child relations from infancy through adulthood and the internal and environmental forces which impact upon family dynamics.
- 362 FAMILY LIFE MANAGEMENT** 3 credits
Introduction to management theories, processes and principles as applied to utilization of human and material resources in promotion of individual and family well-being.
- 390 FAMILY RELATIONSHIPS IN MIDDLE AND LATER YEARS** 3 credits
Exploration of family and individual development during middle and later years of life. Emphases on issues related to intimacy, economics, social policies, psychological and biological changes.
- 395 COMMUNITY INVOLVEMENT IN HOME ECONOMICS** 1-3 credits
Development of managerial expertise through experience. Selected participation sites in business and industry, hospitals, community agencies and with individual families with special managerial problems.
- 401/501 FAMILY-LIFE PATTERNS IN THE ECONOMICALLY DEPRIVED HOME** 2 credits
Study of family life orientation and life-style patterns among economically deprived with emphasis on impact or socioeconomic and psychological deprivation on family members throughout family life span.
- 403/503 ADVANCED FOOD PREPARATION** 3 credits
Prerequisite: 141 or 245 or permission of instructor. Study of advanced techniques of food preparation. Introduction to and interpretation of classic and foreign cuisines. Emphasis on individualized experience, skill development and evaluation of procedures and results.
- 404/504 ADOLESCENCE IN THE FAMILY CONTEXT** 3 credits
Prerequisites: 201, 265 or permission of instructor. The influences of adolescent behavior on the family and the influence of the family environment on adolescent development.
- 406/506 FAMILY FINANCIAL MANAGEMENT** 3 credits
Analysis of the family as a financial unit including financial problems and their resolution, decision-making patterns and financial practices behavior. Cases, exercises, problems and computer analysis.
- 412 INSTITUTIONAL MANAGEMENT** 3 credits
Organization and management in administration of food service systems; problems in administration of food service systems; problems in control of labor, time and cost. Field experience in food production.
- 413 FOOD SYSTEMS MANAGEMENT II** 3 credits
Prerequisite: 310. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.
- 414 FOOD SYSTEMS MANAGEMENT II — CLINICAL** 3 credits (credit/noncredit)
Prerequisite: 315; corequisite: 413. CUP students only. Application of advanced food systems management concepts in community dietetic food service facilities; preparation for entry-level staff positions as administrative dietitians; clinical experience for 24 hours per week for 10 weeks of semester.
- 415 HOUSEHOLD EQUIPMENT** 2 credits
Selection, use and care of modern household equipment. Survey of commercial equipment used in home economics related professions.
- 418/518 HISTORY OF FURNISHINGS & INTERIORS I** 3 credits
Study of furnishings and interiors from antiquity through the eighteenth century, with emphasis on the social-cultural influences shaping their development.
- 419/519 HISTORY OF FURNISHINGS AND INTERIORS II** 3 credits
Study of nineteenth and twentieth century furnishings and interiors, with emphasis on the social-cultural influences shaping their development.
- 420/520 EXPERIMENTAL FOODS** 3 credits
Prerequisites: 246, 3150:130. Theory and methods in the experimental study of foods. Sensory evaluation and instrumental analysis of food quality. Individual research emphasized. Lecture/Laboratory.
- 421 SPECIAL PROBLEMS IN HOME ECONOMICS** 1-3 credits
Additional study or apprentice experience in specialized field or preparation; group and individual experimentation.
- 422 FAMILY RESOURCE MANAGEMENT** 3 credits
Theoretical and practical experiences utilized in study of management processes and principles as applied to families. Management of human and material resources and decision-making processes emphasized.
- 423/523 PROFESSIONAL IMAGE ANALYSIS** 3 credits
Prerequisites: Senior status. Comparison of theories associated with projecting and maximizing an appropriate professional image consistent with career goals and objectives.
- 424/524 NUTRITION IN THE LIFE CYCLE** 3 credits
Prerequisite: 316 or permission of instructor. Study of the physiological basis for nutritional requirements; interrelating factors which affect growth, development, maturation and nutritional status from conception through the elderly years.

- 426 THERAPEUTIC NUTRITION** 4 credits
Prerequisites: 316, 3100:130, 3150:203 or permission. Application of principles of normal nutrition to diet in disease. Effects of pathological conditions on planning of modified diets to meet nutritional needs. Practice in writing therapeutic diets and interviewing hospitalized patients; limited experience in specialized clinics.
- 428 NUTRITION IN MEDICAL SCIENCE II** 5 credits
Prerequisite: 328. Continuation of 328. Emphasizing nutritional implications of more complex metabolic and pathological conditions as well as nutrition support strategies.
- 429 NUTRITION IN MEDICAL SCIENCE II — CLINICAL** 3 credits (credit/noncredit)
Prerequisites: 329, CP students only; corequisite: 428. Clinical experience in hospitals; application of principles of nutritional care learned in 428.
- 430 COMPUTER-ASSISTED FOOD SERVICE MANAGEMENT** 3 credits
Use of computer programs in application of management concepts for food service systems.
- 432/532 INTERIOR TEXTILES AND PRODUCT ANALYSIS** 3 credits
Prerequisite: 158. Examination, evaluation, and analysis of products for interiors with emphasis on trade classifications, selection criteria, economic factors, and legislative concerns.
- 433/533 RESIDENTIAL DESIGN** 3 credits
Prerequisites: 158, 7100:282. A study of interior design as applied to residential aspects with emphasis on conceptual, analytical, and graphic skills.
- 434/534 COMMERCIAL DESIGN** 3 credits
Prerequisite: 158, 7100:282. A study of interior design as applied to commercial aspects with emphasis on conceptual, analytical, and graphic skills.
- 435/535 PRINCIPLES AND PRACTICES OF INTERIOR DESIGN** 3 credits
Prerequisite: 158 and 433 or 434. Study of the business aspect of interior design; business procedures, manufacturing of home furnishings and principles and psychology of marketing home furnishings.
- 438/538 TEXTILE CONSERVATION** 3 credits
Prerequisites: 121, 123, 317. Principles and practices of textile conservation with emphasis on procedures appropriate for collectors and small historical agencies.
- 439/539 FASHION ANALYSIS** 3 credits
Prerequisite: 239. In-depth study of resources and processes for the analysis and forecasting of fashion trends. Emphasizes fashion theory, its application in fashion forecasting, and influential designers.
- 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
Prerequisite: 201 or permission of instructor. Introduction to problems and values. Emphasis is on the role of values in intimate relationships, the diverse dimensions of sexual responsibility.
- 445/545 PUBLIC POLICY AND THE AMERICAN FAMILY** 3 credits
How legislation in such areas as housing, clothing, consumer affairs, family formation and dissolution, resource conservation, child development and health care affects and, in some cases, determines the nature, structure and quality of the family as a social institution.
- 448/548 CULTURE, ETHNICITY AND THE FAMILY** 3 credits
Study of the role of culture and ethnicity in adaptation of the family system to environment. Program applications considered.
- 447 SENIOR SEMINAR: CRITICAL ISSUES IN PROFESSIONAL DEVELOPMENT** 1 credit
Prerequisites: 147 and senior standing. Consideration of home economics as a profession and its impact on the quality of life of individuals, families and their environments. Analysis of challenges facing the profession and all home economists.
- 448/548 BEFORE AND AFTER SCHOOL CHILD CARE** 2 credits
Study of the development, implementation and evaluation of school-age child-care programs for before and after school and vacation periods.
- 449 FLAT PATTERN DESIGN** 3 credits
Prerequisite: 123. Theory and experience in clothing design using flat pattern techniques.
- 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/ill child and family. Literature related to effects, separation, illness and stress. Examination of strategies for coping.
- 455/555 PRACTICUM: ESTABLISHING AND SUPERVISING A CHILD-LIFE PROGRAM** 3 credits
Prerequisite: 451/551. Explores procedures for implementing and setting up child-life programs; critical analysis of currently functioning program.
- 459 MACHINE STITCHERY** 3 credits
Understanding the utilization of the sewing machine as a creative tool. Emphasis on developing the artistic and technical skills necessary for doing embroidery, applique, drawing, quilting, patchwork, cutwork and other related textile arts by machine.
- 460/580 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.
- 470/570 THE FOOD INDUSTRY: ANALYSIS AND FIELD STUDY** 3 credits
Prerequisite: 245 or permission. Role of technology in extending the food supply. Chemical, physical and biological effects of processing and storage, on-site tours of processing plants.
- 474/574 CULTURAL DIMENSIONS OF FOOD** 3 credits
An examination of cultural, geographical and historical influences on development of food habits. Emphasis on evolution of diets; effects of religion, education, gender roles, media.
- 475/575 ANALYSIS OF FOOD** 3 credits
Prerequisites: 3150:130 and 7400:245. Theory and practice of food analysis by classical and modern chemical and instrumental methods. Principles illustrated by experimentation and demonstration.
- 476/576 DEVELOPMENTS IN FOOD SCIENCE** 3 credits
Prerequisite: 246. Advanced study of the chemistry and physics of food components, affecting characteristics of foods. Critical evaluation of current basic and applied research emphasized.
- 480/580 COMMUNITY NUTRITION I — LECTURE** 3 credits
Corequisite: 481 for CUP students only. Major food and nutrition related problems in the community. Emphasis on community assessment, program implementation and evaluation, and rationales for nutrition services.
- 481/581 COMMUNITY NUTRITION I — CLINICAL** 1 credit (credit/noncredit)
Prerequisite: CUP students only; 380, 428. Corequisite: 480/580. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care.
- 482/582 COMMUNITY NUTRITION II — LECTURE** 3 credits
Prerequisite: 480. Corequisite: 483 for CUP students only. Activities engaged in by community nutritionist. Emphasis on controversies, cultural differences, educational approaches, grantmanship, marketing, and working with the media.
- 483/583 COMMUNITY NUTRITION II — CLINICAL** 1 credit (credit/noncredit)
Prerequisite: CUP students only; 481/581. Corequisite: 482/582. A second field placement in an area agency offering nutrition services. Study of the agency's 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; roles played by various hospital personnel plus 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.
- 486 STAFF RELIEF: DIETETICS** 1 credit (credit/noncredit)
Prerequisites: 414, CUP senior only. Opportunity to function as an entry-level dietitian in area of administrative, therapeutic or community dietetics. The graduating senior CUP student spends two 40-hour weeks in a mutually agreeable agency primarily under direction of staff dietitians or coordinators.
- 487/587 SPORTS NUTRITION** 3 credits
Prerequisites: 133; 3100:207, 3150:130 or 203 or permission of instructor. In-depth study of energy metabolism and utilization before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations are emphasized.
- 488/588 PRACTICUM IN DIETETICS** 1-3 credits
Prerequisite: approval of advisor/instructor. Practical experience in application of the principles of nutrition.
- 490/590 WORKSHOP IN HOME ECONOMICS AND FAMILY ECOLOGY** 1-3 credits
Prerequisite: at least junior standing. Investigation on current issue or topic in selected areas of home economics and family ecology. May be on off-campus study tour or an on-campus full-time group meeting.
- 495 INTERNSHIP: GUIDED EXPERIENCES IN CHILD-LIFE PROGRAM** 8 credits
Prerequisite: 455. A field experience in a child-life program as a child-life specialist at Children's Hospital-Medical Center of Akron.
- 496/596 PARENTING SKILLS** 3 credits
Prerequisite: 265, comparable course or permission of instructor. Reviews and analyzes various child-rearing techniques with major emphasis on practical application.
- 497 INTERNSHIP IN HOME ECONOMICS AND FAMILY ECOLOGY** 2-6 credits
Prerequisite: permission of instructor. In-depth field experience in business, industry or community agencies related to student's area of specialization.
- 499 SENIOR HONORS PROJECT IN HOME ECONOMICS AND FAMILY ECOLOGY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and approval of honors preceptor. Individual study supervised by adviser. Student and preceptor develop goals, objectives and methodology.

MUSIC

7500:

- 100 FUNDAMENTALS OF MUSIC** 2 credits
Introduction of basic notation and development of functional music reading and keyboard skills. Conducted in electronic keyboard laboratory with computer-assisted instruction available. For non-music majors only, with little or no previous musical training.
- 101 INTRODUCTION TO MUSIC THEORY** 2 credits
Designed for prospective music major to correct deficiencies in theory background as determined through department placement testing. Includes classroom instruction and computer-assisted instruction in basic notation, scales, meter, key signatures, ear training and basic familiarity with the keyboard. Credit not applicable toward music degree.
- 103 TRENDS IN JAZZ** 2 credits
An overview of the first 100 years of jazz music with emphasis on major figures and styles central to the development of jazz. This course is specifically designed for the non-music major.
- 104 CLASS PIANO I** 2 credits
Prerequisite: 101 or permission of instructor. Designed for student with no previous keyboard experience to learn rudimentary keyboard skills such as playing scales, chords, arpeggios and melodic patterns as well as simple music.
- 105 CLASS PIANO II** 2 credits
Prerequisite: 104 or permission of instructor. Continuation of work begun in 104.
- 107 CLASS VOICE I** 2 credits
Prerequisite: 101 or permission of instructor. Minimum memorization and solo singing requirement: seven songs. Voice literature emphasis; folk songs, ballads, spirituals, sacred songs and easy art songs in English.
- 108 CLASS VOICE II** 2 credits
Prerequisite: 107. Minimum memorization and solo singing requirement: eight songs. Vocal literature emphasis: old Italian and English songs, art songs in English or foreign language if student is conversant with the language.
- 110 CLASS GUITAR FOR NON-MUSIC MAJORS** 1 credit
Prerequisite: permission of instructor. Introduction to the guitar, its repertoire and techniques. Basic classical techniques and music reading, strums, finger-picking, accompaniment patterns, blues styles will be covered.
- 151.2 THEORY I, II** 3 credits each
Sequential. Prerequisite: 101 or permission of instructor. Study and creative use of elements of music; investigation of music of major composers of classic and romantic eras; introduction to earlier musical practices and contemporary music.

- 154.5 MUSIC LITERATURE I, II** 2 credits each
Sequential. Familiarization with large body of musical material from all branches of music writing; vocal, instrumental, symphonic and choral music literature. Special attention given to style, form and structural procedures of principal composers.
- 157 STUDENT RECITAL** 0 credits
Required of all music majors until minimum requirement is met. Forum for student and faculty members providing lectures, recitals and opportunity for practice of various skills necessary for successful music performance.
- 161 AURAL/ORAL MUSIC READING SKILLS** 4 credits
Prerequisite: 101 or passing placement test or permission of instructor. Competency-based, supervised drill in the vocal mastery of scales, modes, intervals, broken chords, melodies, rhythms, meter, tempo, modulation. Computer-based education programs in ear training and error detection.
- 173 NOTATION AND CALLIGRAPHY** 2 credits
Prerequisite: 101. Techniques involved in writing music symbols and their correct placement on staff paper. Included are specific techniques in orchestral, choral, jazz, popular notation.
- 205 MARCHING BAND ORGANIZATION AND TECHNIQUE** 1-2 credits
Prerequisite: Two semesters 7510:104 or one semester 7510:104 and equivalent experience as determined by instructor. A discussion of the marching band. Student learns to write complete half-time show, administer marching band program. Required for instrumental music education majors.
- 210 JAZZ IMPROVISATION I** 2 credits
Prerequisites: 262 and permission of instructor. Study and application of principles of jazz improvisation as they relate the chord-scale structures, motif development and style.
- 211 JAZZ IMPROVISATION II** 2 credits
Prerequisite: 210. Advanced study in principles of jazz composition.
- 212 THE MUSIC INDUSTRY: A SURVEY OF PRACTICES AND OPPORTUNITIES** 2 credits
A study of current practices affecting the professional musician and a survey of career opportunities relating to the music industry.
- 251.2 THEORY III, IV** 3 credits each
Sequential. Prerequisite: 152. Renaissance vocal counterpoint; Baroque instrumental counterpoint; form and analysis of music of all eras.
- 254.5 STRING INSTRUMENT TECHNIQUES I, II** 2 credits each (25 clinical hours each)
Sequential. Fundamentals of technique, tone production, methods and materials pertaining to violin, viola, cello and string bass; heterogeneous string ensemble activities.
- 259 FRETBOARD HARMONY** 2 credits
Prerequisite: 261 or permission of instructor. Essentials of basic theory and harmony as applied to the guitar fretboard: accompaniment, improvisation, transposition, modulation, figures bass, sight reading.
- 261.2 KEYBOARD HARMONY I, II** 2 credits each
Sequential. Prerequisites: 105 or equivalency and 152. Essentials of basic theory and harmony practically applied at keyboard; accompaniment, improvisation, transposition, modulation and sight-reading.
- 263 SERVICE PLAYING FOR ORGANISTS** 2 credits
Prerequisites: 152 and 261. Practical course in basic keyboard skills needed by organist to play for religious services in various denominations. Hymn playing, anthem accompaniment and simple improvisation.
- 265.6 DICTION FOR SINGERS II** 2 credits each
Sequential. Prerequisite: permission. Study of diction of the four most used languages (Italian, German, French and English) in vocal performance and international phonetic alphabet. Designed for student who expects to function as vocal performers and/or choral and studio voice teachers.
- 271 PIANO PEDAGOGY AND LITERATURE I** 2 credits
Prerequisite: permission of instructor. Examination of musical content and pedagogical orientation of beginning piano material to include appropriate teaching works, methods and ensemble pieces from a variety of historical periods.
- 272 PIANO PEDAGOGY AND LITERATURE II** 2 credits
Prerequisite: 7520:125 or permission of the instructor. A survey of piano literature at all levels of difficulty, with practical emphasis on its use for teaching.
- 275 DOUBLE REED/PERCUSSION METHODS** 1 credit
A comprehensive approach to the performance of oboe, bassoon, and the percussion family of instruments for instrumental music education major in preparation for teaching music.
- 276 BRASS METHODS** 1 credit
A comprehensive approach to the performance and pedagogy of brass instruments for instrumental music education majors in preparation for teaching music.
- 277 WOODWIND METHODS** 1 credit
A comprehensive approach to the performance and pedagogy of the woodwind family of instruments for the instrumental music education major in preparation for teaching music.
- 297 INTRODUCTION TO MUSIC EDUCATION** 2 credits
Prerequisites: 152, 154, 161. Overview of the music teaching profession and its processes. Screening of degree candidates is built into the course along with clinical field experience.
- 301 MUSIC APPRECIATION: MUSIC BEFORE 1800** 2 credits
- 302 MUSIC APPRECIATION: 19TH AND 20TH CENTURIES** 2 credits
301 and 302 designed as electives for non-music major to provide introductory survey of art of music.
- 307 TECHNIQUES OF STAGE BAND PERFORMANCE AND DIRECTION** 1-2 credits
Prerequisite: permission of instructor. Basic experiences relating to conducting, rehearsal techniques, improvisation, performance, repertoire and other matters related to organization and direction of stage bands. Required for instrumental majors.
- 308 THE HISTORY AND LITERATURE OF JAZZ** 3 credits
Prerequisite: permission of instructor. Study of origins of jazz music, its development and influence on today's culture. Investigates evolution of musical instruments as they pertain to jazz music, the artists who perform on them, and their music through live and recorded listening experiences.
- 309 JAZZ KEYBOARD TECHNIQUES** 2 credits
Prerequisite: 262. Study of and familiarization with basic jazz keyboard techniques as they relate to contemporary jazz harmony and theory.
- 310 JAZZ IMPROVISATION III** 2 credits
Prerequisite: 211. Advanced study in the principles of jazz improvisation.
- 311 JAZZ IMPROVISATION IV** 2 credits
Prerequisite: 310. Advanced study in the principles of jazz improvisation.
- 325 RESEARCH IN MUSIC** 2 credits
Prerequisites: 155, 161, 252, 262. Techniques of basic research methods; examination of selected music materials; field trips to specialized collections.
- 340 TEACHING GENERAL MUSIC** 2 credits (30 clinical hours, 20 field hours)
Prerequisites: 155, 161, 252, 262, 297. Introductions to methods, materials, and skills for teaching non-performance music classes, with emphasis on the elementary grades.
- 341 CURRICULAR INNOVATIONS IN GENERAL MUSIC** 3 credits (30 clinical hours, 20 field hours)
Prerequisites: 155, 161, 252, 262, 297, 340. Intensive study of principles, techniques, and materials of Orff, Kodaly, and other current general music methods appropriate for grades K-12. Clinical and field experiences.
- 342 ELEMENTARY INSTRUMENTAL MUSIC** 2 credits
Prerequisites: 155, 161, 252, 262, 275, 276, 277, 297. This course prepares teachers for developing innovative elementary instrumental programs. Students will survey materials for creative teaching in instrumental music. Clinical and field experiences.
- 343 SECONDARY INSTRUMENTAL MUSIC** 2 credits (30 clinical hours, 20 field hours)
Prerequisites: 155, 161, 252, 262, 275, 276, 277, 297, 336, 342. Introduction to procedures for teaching instrumental music at the secondary level as well as principles of secondary instrumental curriculum design. Clinical and field experiences.
- 350 WOMEN IN MUSIC** 2 credits
A historical survey of women's contributions to music and overview of women's position in twentieth-century performance, composition and teaching.
- 351.2 MUSIC HISTORY I, II** 3 credits each
Sequential. Prerequisites: 152, 155. Development of music from ancient to modern times; scores, recordings and live performances as illustrative material.
- 353 ELECTRONIC MUSIC** 3 credits
(May be repeated for a total of six credits) Prerequisite: 252. Theory of electronically-generated sound and practice of electronic music composition. Emphasis is on developing practical understanding of the components of the voltage-controlled studio.
- 356 MUSIC IN THE TEACHING OF RETARDED AND HANDICAPPED PEOPLE** 2 credits
Prerequisite: permission of instructor. Study of application of music to needs of the special person in public/private school, clinical settings.
- 358 FUNCTIONAL CLASS GUITAR** 2 credits
Prerequisite: knowledge of music rudiments and permission of instructor. Provides student in music education with basic rudiments of guitar playing as related to use in music classrooms.
- 361 CONDUCTING** 2 credits
Study and practice of conducting techniques, patterns, fermatas, tempo and dynamic change, attacks and releases, score reading, aural skills. One hour lab required.
- 362 CHORAL CONDUCTING** 2 credits (30 clinical hours)
Prerequisites: 252, 352 or permission of instructor. Designed to provide student with an understanding of principles of choral arranging and composition in all idioms and styles.
- 365 SONG LITERATURE** 2 credits
Prerequisite: 252 or permission. Exposes student systematically to vocal literature, aiding in their ability to distinguish between various periods and styles of music through recordings and class participation.
- 368 GUITAR STYLES** 2 credits
Prerequisite: 200 performance level or permission of instructor. Techniques involved in performing musical styles other than those in classical guitar. Included are plectrum styles such as bluegrass, country and rock, as well as flamenco, folk, popular and jazz.
- 371 ANALYTICAL TECHNIQUES** 2 credits
Prerequisite: 252. Techniques for analysis of musical score from all eras of Western music history, with major emphasis on works of Baroque, Classical and Romantic periods.
- 372 TECHNIQUES FOR THE ANALYSIS OF 20TH CENTURY MUSIC** 2 credits
Prerequisite: 252. Techniques for the analysis of musical scores from the 20th Century. Required of a theory-composition major.
- 407 JAZZ ARRANGING AND SCORING** 2 credits
Prerequisite: 454 or permission of instructor. Study of jazz instrumentation from small groups to large ensembles.
- 432/532 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS** 2 credits
To train undergraduate and graduate percussion students in techniques of percussion education. Emphasis on research, literature, performance, and techniques from elementary through secondary levels.
- 451/551 INTRODUCTION TO MUSICOLOGY** 2 credits
Prerequisite: 352. Comparative musicology; acoustics; psychology and physiology of music; aesthetics; theory of music theory; historical musicology.
- 452 COMPOSITION** 2 credits
Prerequisite: 252 or permission of instructor. Study and creative use of major styles and idioms of musical composition; emphasis on 20th-Century techniques.
- 453/553 MUSIC SOFTWARE SURVEY AND USE** 2 credits
Prerequisite: 152 or permission of instructor. A survey and evaluation of available software in the various forms of musical instruction. Students will design a course suitable for submission to a programmer.
- 454 ORCHESTRATION** 2 credits
Prerequisite: 252. Theory of instrumentation ranging from small ensembles to full band and orchestras.
- 455/555 ADVANCED CONDUCTING: INSTRUMENTAL** 2 credits (30 clinical hours)
Baton techniques and problems relating to practice, reading and preparation of scores; organization of ensembles; programming; conducting large instrumental ensembles. One hour lab required.
- 456/556 ADVANCED CONDUCTING: CHORAL** 2 credits
Prerequisite: 361 or equivalent. Conducting techniques to the choral ensemble, including leadership, error detection, tonal development, stylistic accuracy and analysis. One hour lab required.
- 462/582 REPERTOIRE AND PEDAGOGY: ORGAN** 3 credits
Prerequisite: permission of instructor. Survey of organ literature of all eras and styles, and of methods of teaching organ, applying principles to literature.
- 463/563 REPERTOIRE AND PEDAGOGY: STRING INSTRUMENTS** 3 credits
Prerequisite: permission of instructor. Study in depth of the four bowed string instruments, their teaching and close relationship. Despite obvious difference in physical application of cello and bass from violin and viola, methods of bowing, sound production and coloring are closely related. Application of the instruments to solo, chamber and orchestral playing.

- 467/567 GUITAR PEDAGOGY** 2 credits
Prerequisite: permission of instructor. A systematic analysis of prevailing schools of guitar pedagogy. Sound production physiology, method books and special problems in teaching addressed.
- 468/568 GUITAR ARRANGING** 2 credits
Prerequisite: permission of instructor. After comparative analyses of selected examples, students make original solo guitar arrangements of works written for other solo instruments and ensembles.
- 469/569 HISTORY AND LITERATURE OF THE GUITAR AND LUTE** 2 credits
Prerequisite: permission of instructor. Study of plucked, fretted, string instruments from the 14th Century to the present: construction, notation, literature and performance practices. Modern editions and recordings evaluated.
- 471 COUNTERPOINT** 2 credits
Prerequisite: permission of instructor. Designed to give student of theory-composition necessary knowledge and skills for understanding contrapuntal practices and procedures; emphasis on 20th-Century techniques.
- 472 ADVANCED ORCHESTRATION** 2 credits
Prerequisite: 454. Study of techniques of orchestral style as found in major works from classical orchestra of Haydn and Mozart through modern orchestra of Stravinsky, Bartok, Berg and Schoenberg.
- 490/590 WORKSHOP IN MUSIC** 1-3 credits
Prerequisite: permission of instructor. Investigation of topics not offered in regular curriculum. Graduate student must fulfill additional requirements.
- 491 SPECIAL TOPICS IN MUSIC** 2 credits
(May be repeated for a total of four credits) Group project related to a specific phase of music. Experimental course topics designed and implemented according to student interest. For elective credit only.
- 492 SENIOR SEMINAR** 1 credit
Prerequisite: restricted to students enrolled in *Student Teaching in Music*. For music education majors; certification, contracts, benefits, job market prospects and student teaching experience sharing.
- 497 INDEPENDENT STUDY IN MUSIC** 1-2 credits
(May be repeated for a total of four credits) Prerequisites: senior standing and permission of department head. Music major only. Independent study under supervision of specially selected faculty members in subject area bearing on student's own goals.
- 498 SENIOR HONORS PROJECT: MUSIC** 1-3 credits
(May be repeated for a total of six credits) Individually designed project demonstrating scholarship, analysis, advanced musicianship, research and/or creativity according to student interest. Restricted to University honors music student.

- 118 SMALL ENSEMBLE — MIXED** 1 credit
Chamber Ensemble, Baroque Ensemble and Contemporary Music Ensemble. Each is a group of diverse instruments which rehearses and performs a selected body of music.
- 119 UNIVERSITY CHORAL UNION** 1 credit
Membership by audition. Ensemble devoted to study and performance of choral masterworks. Registration for credit open to all students who are not vocal music majors.
- 120 CONCERT CHOIR** 1 credit
Membership by audition. Highly select mixed choir. Performs classical literature from all periods: Campus, regional, and tour performances. "Major conducted ensemble" for vocal majors.
- 121 UNIVERSITY SINGERS** 1 credit
Membership by audition. Mixed ensemble devoted to performance of a wide variety of choral literature from classical to popular. "Major conducted ensemble" for vocal majors.
- 122 FRESHMAN CHORALE** 1 credit
Open to freshman students by audition. Devoted to performance of choral literature and development of vocal/musical skills. "Major conducted ensemble" for vocal majors.
- 123 MADRIGAL SINGERS** 1 credit
Membership by audition. Ensemble devoted to performance of vocal chamber music of the Renaissance. Presents madrigal feasts and concerts on and off campus. Fall semester.
- 124 OPERA CHORUS** 1 credit
Open to students and members of University community by audition. Rehearsal and production of opera and musical theatre literature with staging, costumes, and scenery.
- 421/521 GUITAR CHAMBER MUSIC** 1 credit
Prerequisite: Open to all upper class instrumentalists and vocalists. Guitarists must have taken Guitar Ensemble, 7510.116. Study, coaching, and performance of major works for guitar with other instruments or voice. Major conducted ensemble for guitar majors.

APPLIED MUSIC 7520:

A student must contact the School of Music and consult with the applied music instructor before registering for applied music.

A music major must perform annually before an applied music jury on each instrument studied privately for credit. The non-music major studying applied music will appear before a jury at the discretion of the private teacher.

Credit is earned on the basis of two credits per semester for one 30-minute lesson per week and 90 minutes practice per day. Enrollment may be repeated each semester for credit.

- 021-69 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 non-music programs. Not to be counted for credit in any music major programs of study.

MUSICAL ORGANIZATIONS 7510:

- 102 AKRON SYMPHONY CHORUS** 1 credit
Open to University and community members by audition. Prospective members should contact School of Music two weeks before semester begins. Performs with Akron Symphony Orchestra.
- 103 UNIVERSITY SYMPHONY ORCHESTRA** 1 credit
Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special University appearances. Major conducted ensemble.
- 104 UNIVERSITY BAND** 1 credit
Includes Symphony Band/Wind Ensemble and Concert Band as major conducted ensembles; Marching Band, Varsity Band and Concert Band II. Membership by audition.
- 105 VOCAL CHAMBER ENSEMBLE** 1 credit
Membership open to those enrolled in applied voice study. Coaching and rehearsal of solo and ensemble literature for voices from operatic, oratorio and lieder repertoires.
- 106 BRASS ENSEMBLE** 1 credit
Membership by audition. Study and performance of literature for brass ensemble from all periods of music history. Frequent public concerts. For advanced brass players.
- 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. Musical and dramatic group study of excerpts from operatic repertoire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.
- 109 PERCUSSION ENSEMBLE** 1 credit
Membership by audition. Study and performance of literature for various percussion groups; develops skill in ensemble performance.
- 110 WOODWIND ENSEMBLE** 1 credit
Membership by audition. Study and performance of woodwind literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.
- 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.
- 114 KEYBOARD ENSEMBLE** 1 credit
Involves three hours a week of accompanying. Keyboard major required to enroll for at least three years. Music education major may substitute another musical organization for one year.
- 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
Prerequisite: permission of instructor. A musical ensemble that performs music written before 1750 on copies of authentic instruments.
- 021 PERCUSSION**
- 022 CLASSICAL GUITAR**
- 023 HARP**
- 024 VOICE**
- 025 PIANO**
- 026 ORGAN**
- 027 VIOLIN**
- 028 VIOLA**
- 029 CELLO**
- 030 STRING BASS**
- 031 TRUMPET/CORNET**
- 032 FRENCH HORN**
- 033 TROMBONE**
- 034 BARITONE**
- 035 TUBA**
- 036 FLUTE/PICCOLO**
- 037 OBOE/ENGLISH HORN**
- 038 CLARINET/BASS CLARINET**
- 039 BASSOON/CONTRABASSOON**
- 040 SAXOPHONE**
- 041 HARPSICHORD**
- 042 COMPOSITION**
- 061 JAZZ PERCUSSION**
- 062 JAZZ GUITAR**
- 063 JAZZ ELECTRIC BASS**
- 064 JAZZ PIANO**

065	JAZZ TRUMPET	
066	JAZZ TROMBONE	
067	JAZZ SAXOPHONE	
068	JAZZ COMPOSITION	
069	JAZZ VOCAL STYLES	
121-469/521-569	APPLIED MUSIC FOR MUSIC MAJORS	2 or 4 credits each
The following courses are intended for a student majoring in one of the programs in the Department of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.		
121-221-321-421/521	PERCUSSION	
122-222-322-422/522	CLASSICAL GUITAR	
123-223-323-423/523	HARP	
124-224-324-424/524	VOICE	
125-225-325-425/525	PIANO	
126-226-326-426/526	ORGAN	
127-227-327-427/527	VIOLIN	
128-228-328-428/528	VIOLA	
129-229-329-429/529	CELLO	
130-230-330-430/530	STRING BASS	
131-231-331-431/531	TRUMPET OR CORNET	
132-232-332-432/532	FRENCH HORN	
133-233-333-433/533	TROMBONE	
134-234-334-434/534	BARITONE	
135-235-335-435/535	TUBA	
136-236-336-436/536	FLUTE OR PICCOLO	
137-237-337-437/537	OBOE OR ENGLISH HORN	
136-238-338-438/538	CLARINET OR BASS CLARINET	
139-239-339-439/539	BASSOON OR CONTRABASSOON	
140-240-340-440/540	SAXOPHONE	
141-241-341-441/541	HARPSICHORD	
142-242-342-442/542	PRIVATE LESSONS IN MUSIC COMPOSITION	2-4 credits each (May be repeated) Prerequisites: 7500.252 and permission of instructor; 7500.452 recommended. Private instruction in composition. Primarily for student whose major is theory/composition.
161-261-361-461	JAZZ PERCUSSION	
162-262-362-462	JAZZ GUITAR	
163-263-363-463	JAZZ ELECTRIC BASS	
164-264-364-464	JAZZ PIANO	
165-265-365-465	JAZZ TRUMPET	
166-266-366-466	JAZZ TROMBONE	
167-267-367-467	JAZZ SAXOPHONE	
168-268-368-468	JAZZ COMPOSITION	
169-269-369-469/569	JAZZ VOCAL STYLES	

COMMUNICATION

7600:

102	SURVEY OF MASS COMMUNICATION	3 credits
Considers entire field of contemporary American mass communication. Presents and explains functions of agencies through which news, views and entertainment reach the general public.		
115	SURVEY OF COMMUNICATION THEORY	3 credits
Presents models of major forms of speech communication and discusses elements of models, their interaction and their function in the human communication system.		
200	CAREERS IN COMMUNICATION	1 credit (credit/noncredit)
A survey of career opportunities in the communication field. Outside speakers; field trips.		
201	NEWS WRITING	3 credits
Prerequisite: ability to type. Writing of news stories; applying theory through discussions, illustrative material; actual writing for publication.		

204	EDITING	3 credits
Prerequisite: 201. Copyreading, headline writing, proofreading, makeup, type and typography, printing machines and processes, newspaper methods and systems.		
206	FEATURE WRITING	3 credits
Prerequisite: 201. Short newspaper and magazine articles, preparation of articles for publication, human interest situations, extensive writing with class discussion.		
225	LISTENING	1 credit
Techniques and approaches involved in understanding the listening process and practice of listening improvement techniques.		
228	INTERVIEWING	3 credits
Study and practical application of selected interviewing concepts associated with job interviewing, journalistic interviewing, and life review interviewing.		
227	NONVERBAL COMMUNICATION	3 credits
Focused study of the principal aspects of nonverbal communication in public, group and interpersonal settings.		
230	WZIP-FM*	1 credit
231	FORENSICS*	1 credit
232	BUCHTELITE*	1 credit
233	TEL-BUCH*	1 credit
235	INTERPERSONAL COMMUNICATION	3 credits
Theory and practice in interpersonal communication concepts and principles. Special topics in communication apprehension, assertive communication, communication dyads and triads, and transactional communication.		
245	ARGUMENTATION	3 credits
Study of process of developing, presenting and defending inferences and arguments in oral communication setting. Includes study and practice of evidence, reasoning, case construction, refutation and rebuttal.		
252	PERSUASION	3 credits
Emphasis on understanding persuasion theory and practice. Includes information analysis of motivational appeals and introduction to propaganda analysis.		
270	VOICE TRAINING FOR MEDIA	2 credits
Safe and effective uses of the vocal instrument in its specific application to radio, television and films.		
280	MEDIA PRODUCTION TECHNIQUES	3 credits
Introduction to production techniques used in the mass communication covers sound, image, lighting, fundamentals of conveying messages on slide, film and video.		
282	RADIO PRODUCTION	3 credits
Study of radio production techniques and the functional operation of AM and FM radio stations. Includes practical production experience in studio.		
283	TELEVISION PRODUCTION	3 credits
Prerequisite: 280. Function, structure and influence of television as communication medium with practical production experience in studio.		
288	FILM PRODUCTION	3 credits
Prerequisite: 280. Techniques, limitations and potentials of film production. A student learns script writing, directing, lighting and makeup; practical production experience in studios and on location.		
301	ADVANCED NEWS WRITING	3 credits
Prerequisite: 201. Advanced course in writing and editing news, features and analysis for print media. Behavioral approach to communication of information and ideas.		
303	PUBLIC RELATIONS WRITING	3 credits
Prerequisites: 201, ability to type. Introduction of writing skills required by public relations practitioners emphasizing different approaches for specific publics and specific media.		
309	PROMOTIONAL PUBLICATIONS	3 credits
Prerequisites: 201 and 303. Preparation of publications used as communication tools in public relations, advertising and organizations. Emphasis upon design, layout and technology.		
325	INTERCULTURAL COMMUNICATION	3 credits
Study of effect on oral communication process of existence of cultural barriers. Includes study of verbal and nonverbal communication in transracial, informal international and diplomatic communicative settings.		
344	GROUP DECISION MAKING	3 credits
Study of communication and decision making in small groups. Practice in techniques of group decision-making. Introduction to theory of group communication.		
345	BUSINESS AND PROFESSIONAL SPEAKING	3 credits
Prerequisite: 1100.105 or 106. Practical improvement in speaking skills used in business settings.		
346	ADVANCED PUBLIC SPEAKING	3 credits
Prerequisite: 1100.105 or 106. Theory and practice of public speaking; audience analysis; advanced methods for organizing persuasive speeches; techniques of research, style, and delivery; professional speech writing; extensive speaking practice.		
355	FREEDOM OF SPEECH	3 credits
Discussion and analysis of the Constitution's free speech guarantee; contemporary issues in freedom of communication; role of the media in free speech issues.		
361	AUDIO RECORDING TECHNIQUES	3 credits
Prerequisite: 280 and permission. Basic principles of sound, human hearing, and the techniques of audio recording. Theory and laboratory training, recording practice in the studio and on location. Lab fee.		
362	VIDEO CAMERA AND RECORDING	3 credits
Prerequisite: 280. Principles of electronic image recording; studio and field camera operation; studio and field location lighting practice.		

*Total repeats not to exceed eight credits.

(Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)

- 383 ADVANCED TELEVISION PRODUCTION** 3 credits
Prerequisite: 283 and permission. Television production operations in a studio environment. Practice producing and directing. Studio equipment operation. Lab fee.
- 384 COMMUNICATION RESEARCH** 3 credits
Prerequisites: 102, 115. Fundamental concepts and methods of survey research, and the application and interpretation of survey data in communication and in media operations.
- 385 AMERICAN FILM HISTORY: THE BEGINNING TO 1945** 3 credits
Acquaints undergraduate student with historical developments of film and film concepts; ends with films of 1945.
- 386 AMERICAN FILM HISTORY: 1945 TO THE PRESENT** 3 credits
Continuation of student's survey of film history and film concepts begun in 385.
- 387 RADIO AND TV WRITING** 3 credits
Practical application of script writing principles and techniques used in writing scripts for commercials, announcements, comedy/drama, news and documentaries.
- 388 HISTORY AND STRUCTURE OF BROADCASTING** 3 credits
Growth of broadcasting in America; historical evolution of approaches to programming, news and financing of broadcasting operations.
- 395 RADIO STATION PROGRAMMING AND OPERATIONS** 3 credits
History and development of radio programming from early formation to present; nature, structure and function of educational and commercial radio broadcasting.
- 396 TELEVISION STATION PROGRAMMING AND OPERATIONS** 3 credits
Examines the operations and programming processes of a broadcast station; programming philosophies, broadcast schedules, feature and syndication acquisition, local productions, issues of staffing and funding.
- 400/500 HISTORY OF JOURNALISM IN AMERICA** 3 credits
A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.
- 403 COMMUNICATION IN PUBLIC RELATIONS I** 3 credits
Prerequisites: 201, 303, and 309. Selected communication theories used to analyze and implement effective public relations programs with emphasis placed upon research, planning, promotional messages and evaluation of program.
- 404 COMMUNICATION IN PUBLIC RELATIONS II** 3 credits
Prerequisites: 303, 309, and 403. Continuation of 403. Application of principles of public relations profession in an actual organizational setting.
- 405 MEDIA COPYWRITING** 3 credits
Prerequisite: 309. Selected communication theories and research techniques used to plan, write and analyze commercial messages. Emphasis will be placed on selection of audience, medium, appeal, writing style and evaluation of efforts.
- 435 ORGANIZATIONAL COMMUNICATION I** 3 credits
Overview of theories and approaches for understanding communication flow and practices in organizational settings, i.e., interdepartmental, superior-subordinate, etc.
- 436 ORGANIZATIONAL COMMUNICATIONS II** 3 credits
Prerequisites: 344 and 435. Continuation of 435; in-depth analysis and application, including team building, conflict management, communication flow; individual and group projects; simulations.
- 439 INDEPENDENT STUDY** 1-12 credits
(May be repeated for a total of 12 credits) Prerequisite: permission of faculty. Directed independent readings, research, projects and productions. Written proposal must be submitted before permission is granted. Appropriate documentation of work required.
- 450 SPECIAL TOPICS IN COMMUNICATION** 3 credits
(May be repeated for a total of nine credits) Special interest topics in mass communication, journalism, or communication, supplementing courses listed in *University Bulletin*. See department for current listing of offerings.
- 454/554 THEORY OF GROUP PROCESSES** 3 credits
Group communication theory and conference leadership as applied to individual projects and seminar reports.
- 457/557 PUBLIC SPEAKING IN AMERICA** 3 credits
Survey and critical analysis of major speakers, speeches and speech movements in American history. Examines how style and content of American speaking influenced events and reflected their times.
- 463/563 CORPORATE VIDEO DESIGN** 3 credits
Prerequisites: 201, 280. Client contact, analysis of production problems, design and writing of scripts for promotion, training, and news in corporate and health service settings.
- 464/564 CORPORATE VIDEO MANAGEMENT** 3 credits
Prerequisite: 463. Budgeting for individual productions and production facilities, scheduling, script breakdown, management of corporate and health service media facilities.
- 466/566 AUDIO AND VIDEO EDITING** 3 credits
Prerequisite: 280. Theory and practice of editing audio and video for broadcast and corporate applications.
- 467/567 DIRECTING VIDEO PRODUCTIONS** 3 credits
Prerequisite: 280 and permission. Script analysis, casting, principles of directing, directing nonprofessional talent. Laboratory exercises.
- 470 ANALYSIS OF PUBLIC DISCOURSE** 3 credits
Identifies principal textual and contextual elements of public discourse and presents various theories and models to be applied in studying rhetorical acts.
- 471/571 THEORIES OF RHETORIC** 3 credits
Study of key figures in history of rhetorical theory, stressing interrelationships among theories of rhetoric, intellectual climates and social climates.
- 480 COMMUNICATION INTERNSHIP** 1-8 credits
(May be repeated for a total of eight credits) Prerequisites: 24 credits in departmental courses, 2.5 overall GPA, and permission. Provides student with supervised experience and on-the-job training. Written permission must be obtained from the department prior to the term for which credit is to be received.
- 484 REGULATIONS IN MASS MEDIA** 3 credits
Concentration on government regulations and self-regulatory bodies in broadcasting, film and print media.
- 485 SENIOR HONORS PROJECT IN COMMUNICATION** 1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program; approval of honors preceptor. Independent study project leading to completion of senior honors thesis or other original work.
- 486 BROADCAST SALES AND MANAGEMENT** 3 credits
Prerequisite: 384. Using simulation and case history techniques, this course examines the sales and decision-making processes of a broadcast station.

- 487/587 THE AMERICAN FILM INDUSTRY** 3 credits
History, current operation and possible futures of the American film industry. Business and industrial aspects of film considered in relation to technological and social change.
- 488/588 ADVANCED FILM PRODUCTION** 3 credits
Prerequisite: 288. Advanced study in film. Includes study of 35 mm, 16 mm, and Super-8 mm color and black and white, sound on film. Emphasis on individual production.
- 489/589 DOCUMENTARY FORM IN FILM AND TELEVISION** 3 credits
Historical and critical study of documentary and nonfiction forms in film and television with an analysis of their roots in photography and radio. Emphasis on American film and TV.
- 490/590 COMMUNICATION WORKSHOP** 1-3 credits
(May be repeated for a total of six credits) Group study or group projects investigating a particular phase of media not covered by other courses in curriculum.
- 492/592 CORPORATE VIDEO PRACTICUM** 2-6 credits (repeatable to 6 hours)
Prerequisite: permission. Practical applications of writing, directing, management, recording, and editing skills to problems in business, education, and health services. Lab fee.

COMMUNICATIVE DISORDERS

7700:

- 100 MANUAL COMMUNICATION I** 5 credits
Prerequisites: 271 and 2210;104 or permission of instructor. Study of different communication systems employed by the deaf; characteristics, similarities and differences. Introduction to Ameslan as a language.
- 110 INTRODUCTION TO DISORDERS OF COMMUNICATION** 3 credits
Overview of various types of speech disorders; their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.
- 111 INTRODUCTION TO PHONOLOGY** 2 credits
Introduction to international phonetic alphabet, and overview of articulatory phonetics.
- 120 INTRODUCTION TO AUDIOLOGY/AURAL REHABILITATION** 3 credits
(Not open to communicative disorder major) Introduction to field of audiology including physics of sound, anatomy and physiology of auditory system, measurement of hearing impairment, nature and causes of hearing disorders and habilitation of persons with hearing impairment.
- 121 PSYCHO-SOCIAL ASPECTS OF DEAFNESS** 3 credits
Prerequisite: 120. The effects of deafness on the emotional, social, motor and intellectual development of the individual; the effects of deafness on interpersonal relationships.
- 130 BASES AND STRUCTURE OF LANGUAGES** 3 credits
Introduction to linguistic bases of speech and language: phonological, morphological, syntactical and semantic. Social and psychological variables in communicative process as applied to therapeutic environment presented.
- 140 INTRODUCTION TO HEARING SCIENCE** 3 credits
Normal anatomy and physiology of hearing system and acoustics of hearing. Survey of field of audiology. Nature of hearing problems.
- 150 MANUAL COMMUNICATION II** 4 credits
Prerequisite: 100. Further study of Ameslan as a language. Practice in modifications which influence sign formation; more meaningful units and constructions; further similarities and differences among other signing systems.
- 200 MANUAL COMMUNICATION III** 4 credits
Prerequisite: 150. Further practice in developing expressive and receptive skills in Ameslan. Review of previous work and further in-depth study of linguistic components of manual communication systems of the deaf.
- 210 APPLIED PHONOLOGY** 3 credits
Prerequisite: 111. Training in allophonic transcription. Analysis of sound substitutions, distortions and dialectal variations. Study of Distinctive Feature Systems.
- 211 INTRODUCTION TO SPEECH SCIENCE** 2 credits
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** 2 credits
Prerequisite: 2210;100 or permission of instructor. The treatment of deaf persons, their education and legal status in Western cultures from early civilizations to modern times. Review of basic methods used in educating the deaf, the rationale behind these methods and the contributions of the use of the different methods on the deaf culture.
- 223 SPEECH AND LANGUAGE OF THE DEAF CHILD AND ADULT** 4 credits
(Not open to communicative disorders major) Prerequisite: 222. Introduction to acquisition of speech and language hearing and prelingually deaf children. Principles and techniques in language assessment and instruction will be covered.
- 230 SPEECH AND LANGUAGE DEVELOPMENT** 3 credits
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** 4 credits
Prerequisite: 140. Introduction to philosophy and methods of aural rehabilitation for children and adults. Includes methods of speech reading, auditory training, speech conservation, hearing aid use and combined visual and auditory approaches.
- 241 PRINCIPLES OF AUDIOMETRY** 3 credits
Prerequisite: 140. Introduction to psychoacoustic principles which underlie basic audiometric tests; principles of speech audiometry, masking and impedance audiometry.
- 250 OBSERVATION AND CLINICAL METHODS** 2 credits
Corequisites: 240 or 321 or 330. Introduction to clinical procedures. Analyses of preparation and structure necessary for successful therapy; observation of therapy in different settings.
- 271 LANGUAGE OF SIGNS I** 3 credits
Expressive and receptive skills in manual communication; introduction to various sign systems; philosophy of total communication and orientation to aspects of deafness; conversational sign language and developing speed and comprehension of fingerspelling skills. Laboratory.
- 321 COMMUNICATIVE DISORDERS I** 4 credits
Prerequisites: 110, 210. Study of disorders of articulation, voice and stuttering including etiology, symptomatology, evaluation and therapeutic procedures.

- 322 COMMUNICATIVE DISORDERS II** 4 credits
Prerequisites: 110, 3100:264. Study of organically based speech disorders: cleft palate, cerebral palsy, aphasia and dysarthria including etiology, symptomatology, evaluation and therapeutic procedures.
- 330 LANGUAGE DISORDERS** 4 credits
Prerequisite: 230. Etiology, identification, evaluation, intervention, remediation of symbolic, cognitive, interpersonal language disorders of children. Disorders viewed as correlates of sequelae of central nervous system dysfunction or emotional disturbance.
- 340 AUDIOLOGICAL EVALUATION** 2 credits
Prerequisite: 241. "Test battery" approach to audiometry explored; techniques of case finding and handling of difficult-to-test cases; competency with all tests in the battery required.
- 350 CLINICAL PRACTICUM: ARTICULATION/PHONOLOGY** 1 credit
(Must be repeated for a total of two credits) Prerequisites: 250, 321. Supervised clinical practicum in articulation/phonology. Emphasizes therapy procedures, diagnostic techniques, and report preparation.
- 351 CLINICAL PRACTICUM: LANGUAGE** 1 credit
Prerequisites: 250, 330. Supervised clinical practicum in language. Emphasizes therapy procedures, diagnostic techniques, and report preparation.
- 352 CLINICAL PRACTICUM: AURAL REHABILITATION** 1 credit
(Must be repeated for a total of two credits) Prerequisites: 240, 250. Supervised clinical practicum in hearing rehabilitation. Emphasizes therapy procedures, diagnostic techniques, and report preparation.
- 370 LANGUAGE OF SIGNS II** 1 credit
Prerequisite: 271 or permission of instructor. Advanced work in signs and fingerspelling with emphasis on additional sign vocabulary acquisition and development of expressive and receptive skills. Stress on continued skill building in conversing with deaf adults.
- 430/530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT** 3 credits
(Not open to communicative disorders major) Introduction to acquisition and development of comprehension and production of language — phonologically, semantically and syntactically. Relates language acquisition to perceptual development of child and looks at function of language in individual, family and school.
- 450 ASSESSMENT OF COMMUNICATIVE DISORDERS** 3 credits
Prerequisite: senior status; 321, 330 and 350, or permission. Introduction to differential diagnosis of communicative disorders. Emphasizes taking case histories, and administration and interpretation of tests and procedures.
- 451 CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY** 1 credit
(Must be repeated for a total of two credits) Prerequisites: 250, 340. Supervised clinical practicum in hearing diagnostics. Emphasizes diagnostic procedures and report preparation.
- 460/560 SPEECH-LANGUAGE AND HEARING DISORDERS IN THE PUBLIC SCHOOLS** 2 credits
(Not open to communicative disorders major) Nature, causes and treatment of speech, hearing and language disorders in public schools. Special reference to role of classroom teacher in identifying and referring student with suspected problems and in working with school clinician.
- 461/561 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH-LANGUAGE AND HEARING PROGRAMS** 2 credits
Prerequisites: Senior or graduate standing. For clinicians who plan to work in public school systems. Covers program requirements and professional/ethical issues imposed by PL 94-142.
- 461 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH-LANGUAGE AND HEARING PROGRAMS** 2 credits
Prerequisite: senior standing; open to major in communicative disorders only. Designed for speech and hearing clinicians who plan to work in public school system. Covers following 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.
- 460 SEMINAR IN COMMUNICATIVE DISORDERS** 2 credits
Prerequisite: senior standing. Provides a vehicle for detailed study and discussion of various communicative disorders.
- 461 SPECIAL PROJECTS: COMMUNICATIVE DISORDERS** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission of instructor. Individual or group projects related to any of the problems of communicative disorders.
- 463/563 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 concomitant rehabilitative procedures. Designed for a student interested in the aging population.
- 465/565 COMMUNICATIVE DISORDERS IN THE DEVELOPMENTALLY DISABLED** 4 credits
Theory and current research related to the etiology, diagnosis and remediation of communicative disorders in intellectually and/or neuro-motorically delayed children.
- 490/590 WORKSHOP: COMMUNICATIVE DISORDERS** 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Group investigation of particular phase of speech pathology and/or audiology not offered by other courses.
- 495 INTERNSHIP: SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY** 3-6 credits
Prerequisite: permission of director of Speech and Hearing Center. Affords opportunity for in-depth clinical experience in variety of clinical settings outside The University of Akron Speech and Hearing Center. On-the-job experience with specialized case populations.
- 496 SENIOR HONORS PROJECT: SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY** 1-3 credits
(May be repeated for a total of six credits) Prerequisites: enrollment in the Honors Program, senior standing and major in communicative disorders.
- 401/501 SOCIAL WORK PRACTICE I** 3 credits
Prerequisite: 276 or permission of instructor. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families.
- 402/502 SOCIAL WORK PRACTICE II** 3 credits
Prerequisite: 401 or permission of instructor. Concepts and methods of social work practice particularly relating to understanding and working with groups in various settings in our society.
- 403/503 SOCIAL WORK PRACTICE III** 3 credits
Prerequisite: 401 or permission of instructor. Development of understanding and practice methods for utilization of community organization and social planning as social work process in assessing problems and developing program to meet needs.
- 404/504 SOCIAL WORK PRACTICE IV** 3 credits
Prerequisite: 401 or permission of instructor. Professional social work practice with families in social services; the dynamics of family systems, assessment of family function and dysfunction, professional helping processes.
- 410/510 MINORITY ISSUES IN SOCIAL WORK PRACTICE** 3 credits
Prerequisite: 276 or permission of instructor; taken prior to or concurrent with 401, 402, or 404. Racial, ethnic and cultural issues in social work related to various practice and theoretical perspectives, to various types of social problems, service agencies, individual family, group, community and societal contexts integrated with the methodological processes of the social work practitioners.
- 411/511 WOMEN'S ISSUES IN SOCIAL WORK PRACTICE** 3 credits
Prerequisite: 276 or permission of instructor. Social work practice, knowledge and skill, social welfare institutions and social policy in relation to women's issues and concerns in the United States.
- 421 FIELD EXPERIENCE SEMINAR** 1 credit
Prerequisites: 401 and permission of instructor; corequisite: 495. Careful examination and integration of academic understanding and professional methodological studies into professional practice.
- 425/525 SOCIAL WORK ETHICS** 3 credits
Prerequisite: 276 or permission of instructor. Social Worker's code of ethics as applied to practices, problems and issues in social work.
- 427/527 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT I** 3 credits
Prerequisite for 427: 276 or permission of instructor; for 527: permission of instructor. Social work perspective on human development across the life cycle. Human diversity approach consistent with the needs of social work students preparing for practice.
- 430/530 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT II** 3 credits
Prerequisites for 430: 276, 427 or permission of instructor; for 530: permission of instructor. Emphasis on social workers' understanding of and use of individual interaction and growth within family as a system, groups, roles, organizations, community and culture.
- 440/540 SOCIAL WORK RESEARCH I** 3 credits
Prerequisites for 440: 276 or permission of instructor; for 540: permission. Social work practitioner's role in utilization of scientific method in the conduct of practice and utilization of social work research as found in social work and social science literature for improvement and advancement of social work practice.
- 441/541 SOCIAL WORK RESEARCH II** 3 credits
Prerequisite for 441: 440 or permission of instructor; for 541: permission of instructor. Evaluation of social work intervention with individual, group and community. Processing and interpreting agency information for better practice, policy and administrative decisions.
- 445/545 SOCIAL POLICY ANALYSIS FOR SOCIAL WORKERS** 3 credits
Prerequisite for 445: 276 or permission of instructor; for 545: undergraduate social work degree or permission. Description, analysis and construction of social policy in social services; to understanding forces and processes which establish or change social policies; to predict consequences of social policies and to establish goals for social policy development; integrated into effective social work methodology.
- 450/550 SOCIAL NEEDS AND SERVICES FOR LATER ADULTHOOD AND AGING** 3 credits
Prerequisite: 276 or permission of instructor. Application of knowledge and principles of professional social work practice to understanding, development and provision of social services to meet needs of aging and later maturity individuals, families and communities and institutions serving them and their relatives.
- 451/551 SOCIAL WORK IN CHILD WELFARE** 3 credits
Prerequisite: 276 or permission of instructor. In-depth exploration of structure and functioning of social services designed to help children, and of practice of social work in child-welfare settings. Consideration of supportive, supplementary and substitutive services.
- 452/552 SOCIAL WORK IN MENTAL HEALTH** 3 credits
Prerequisite: 276 or permission of instructor. Issues, organization, development and methodologies of current professional social work practice in mental-health settings.
- 454/554 SOCIAL WORK IN JUVENILE JUSTICE** 3 credits
Prerequisite: 276 or permission of instructor (undergraduate). The theory and practice of social work in the juvenile justice systems of the United States. Traditional procedures and recent developments, prevention, diversion and community outreach, legal concerns, case management, institutional functioning.
- 455/555 THE BLACK FAMILY** 3 credits
Prerequisite: 276 or permission of instructor. Contemporary problems facing black families; male-female relationships, single parent households, black teens and elderly, public policy, theoretical models, explaining development of the black family.
- 456/556 SOCIAL WORK IN HEALTH SERVICES** 3 credits
Prerequisite: 276 or permission of instructor. Policies, programs and practice in health-care settings: short-term, intermediate and long-term hospitals, out-patient services, emergency services, clinics, visiting nurse services, nursing homes, pediatric services, self-help organizations.
- 457/557 ADVANCED PRACTICE WITH INDIVIDUALS** 3 credits
Prerequisite: 401 or permission of instructor (undergraduate); undergraduate social work degree or permission (graduate). Advanced professional development of direct and indirect strategies and techniques of intervention to aid individuals in improving psychosocial functioning.
- 458/558 ADULT DAY CARE** 3 credits
Prerequisite for 458: 276 or permission of instructor; for 558: permission of instructor. Planning, development, implementing, evaluating and delivery of adult day-care services.
- 459/559 SOCIAL WORK WITH THE MENTALLY RETARDED** 3 credits
Prerequisite: 276 or permission of instructor. Application of social work principles in the provision of social services to meet the needs of the mentally retarded and developmentally disabled and their families.

SOCIAL WORK

7750:

- 270 POVERTY IN THE UNITED STATES** 3 credits
Survey of social and personal dimensions of life in the inner city and other areas of poverty in United States. For person wishing to develop an in-depth understanding and/or intending to work in such areas.
- 276 INTRODUCTION TO SOCIAL WELFARE** 4 credits
Survey of field of social welfare; place of social work profession within human services institutions of United States. Introduction of basic concepts relating social welfare institutions and social work to society.

465/565 ADMINISTRATION AND SUPERVISION IN SOCIAL WORK 3 credits
Prerequisite: 401 or permission of instructor. Preparation for use of supervision, staff development and program planning in a social work agency. Examines the social work/welfare agency in its community as it affects its organizational goal-setting and program-implementation problems.

470/570 LAW FOR SOCIAL WORKERS 3 credits
Prerequisite: 276 or permission of instructor. Basic terminology, theories, principles, organization and procedures of law will be explored along with the relationships between social work and law and comparisons of the theoretical bases of the two professions.

475/575 SUBSTANCE ABUSE AND SOCIAL WORK PRACTICE 3 credits
Prerequisites: 276 or permission of instructor. Provides students with the essential knowledge and skill for successful social work practice with people involved in substance abuse.

480/580 SPECIAL TOPICS IN SOCIAL WORK AND SOCIAL WELFARE 1-3 credits
Prerequisite: permission of instructor. Analysis of current social work and social welfare theory and policy, settings, innovative interventions and trends in delivery systems in relation to selected areas of concern. Topics and credits variable.

490/590 SOCIAL WORK WORKSHOP 1-4 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Group investigation of a particular phase of social work or social welfare not offered by other courses in curriculum.

495 FIELD EXPERIENCE IN SOCIAL AGENCY 2-8 credits
(Two credits minimum and eight credits maximum; total in consecutive semesters only) Prerequisites: 401 and permission of instructor; corequisite: 421. Individual placement in selected community and social service agencies for supervised experience with individuals, groups and communities in family service, health care, corrections, community development, mental health, child welfare, public welfare and similar social welfare settings. Student must register intent and receive permission to take the course with the course instructor during early part of semester preceding enrollment. For senior major in social work.

497/597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK SOCIAL WELFARE 1-3 credits
Prerequisites: permission and prearrangement with instructor. Individual readings, research or projects in area of interest in social welfare theory or institutional operations or in social work practice under guidance of social work faculty member. Preparation of report paper appropriate to nature of topic. For social work major.

499 SENIOR HONORS PROJECT IN SOCIAL WORK 1-3 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program and approval of honors preceptor in department. Open only to social work major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work resulting in writing of research paper in proper scholarly form, supervised by student's honors project adviser within the department.

266 BASIC STAGECRAFT II 3 credits
Prerequisite: 265. Aspects of stagecraft including the construction and handling of three-dimensional scenery and the rigging of scenic units. Laboratory required.

271 DIRECTING I 3 credits
Emphasizes fundamentals of play directing, including responsibilities of director, stage nomenclature, play selection, character analysis and rehearsals. One-act form emphasized.

301 INTRODUCTION TO THEATRE AND FILM 3 credits
A survey of creative development in theatre and film. It will cover American and international developments through lecture and viewing of films. For non-majors.

307 ADVANCED COSTUME TECHNIQUES 3 credits
Prerequisite: 107. Specialized construction techniques for costumes, armor, masks, jewelry, millinery, and footwear.

330 DEVELOPMENT OF THEATRE: DRAMATIC LITERATURE I 3 credits
Prerequisites: 230 or permission of instructor. An in-depth exploration of stage plays from the Classical Greek period of 1800, with an emphasis on the relationship of plays to various cultures.

333 SUMMER THEATRE 3 credits
Prerequisites: Permission of instructor/audition. Practical laboratory experiences in one or more disciplines during the summer season doing production and/or management work. Permission only. (Repeatable to 12 credits.)

337 STAGE COSTUME HISTORY AND DESIGN I 3 credits
Prerequisites: 107, 7100:144. An introduction to Stage Costume Design through the 16th Century. Exploration design skills, historical styles and dramatic literature through costume design projects.

338 STAGE COSTUME HISTORY AND DESIGN II 3 credits
Prerequisite: 337. A continuation of 337 from the 17th Century to the present.

350 ADVANCED VOICE FOR THE STAGE 3 credits
Prerequisite: 151. Vocal training through interpretation and analysis of various theatre styles.

355 STAGE LIGHTING DESIGN 3 credits
Prerequisite: 225 or permission of instructor. The art and technique of stage lighting design: light plotting, color theory, and optical effects.

365 STAGE DESIGN 3 credits
Prerequisite: 106. The art of stage design: its demands, elements, principles.

370 THE AMERICAN THEATRE: PLAYS, PLAYERS AND PLAYWRIGHTS 3 credits
Study of American theatre, from its beginning in 17th Century to present, with emphasis on achievements in 20th Century.

371 DIRECTING II 3 credits
Prerequisites: 271 and permission. Advanced course in practical techniques of staging plays from major theatrical periods as well as principles of working with the actor.

373 ACTING II 3 credits
Prerequisite: 172. Continuation of 172. Further emphasis on the psychology of the actor and development of performing techniques through scene study.

374 ACTING III 3 credits
Prerequisite: 373. Further in-depth actor training with emphasis on the language and interpretation of classic plays including Shakespeare.

403 SPECIAL TOPICS IN THEATRE ARTS 1-4 credits
(May be repeated as different subject areas are covered, but no more than 10 credits may be applied toward B.A. degree) Prerequisite: permission. Traditional and nontraditional topics in theatre arts, supplementing courses listed in this *General Bulletin*.

421 MUSICAL THEATRE PRODUCTION 3 credits
Designed to make the theatre student aware of the total creative process involved in mounting a stage musical.

430 DEVELOPMENT OF THEATRE: DRAMATIC LITERATURE II 3 credits
Prerequisite: 330 or permission of instructor. An in-depth exploration of stage plays from the 19th Century to modern times with an emphasis on the relationship of plays to various cultures.

435 STAGE COSTUME DESIGN 3 credits
Prerequisite: 335. Tools of fashion and figure drawing, stage costume rendering and theatrical design assignments.

436 STYLES OF SCENIC DESIGN 3 credits
Prerequisite: 365. Theatrical styles and periods in scenic design and scenography.

450/550 PERFORMANCE PROJECTS 3 credits
(May be repeated for a total of six credits.) Prerequisite: permission of instructor. Preparation and presentation of programs and projects for community and campus organizations plus other projects as announced.

462/562 PLAYWRITING 2 credits
Prerequisite: permission. Principles of dramatic construction learned through analysis of playwright's art, as well as through writing of individual dramatic compositions.

467/567 CONTEMPORARY THEATRE STYLES 3 credits
A detailed examination of representative plays of the contemporary theatre.

468/568 CHILDREN'S THEATRE 3 credits
Study of theatre for child audience. play selection, set design and construction, acting, directing. A full-length play for children produced by the class may culminate the course.

469 PROBLEMS IN LIGHTING DESIGN 3 credits
Prerequisite: 465. Advanced study of practical application to problems confronting lighting designer and technician.

470 PRACTICUM IN PRODUCTION DESIGN/TECHNOLOGY 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Practice in selected production design/ technology as it applies to projects in major departmental productions.

474 ACTING IV 3 credits
Prerequisite: 374. Investigation of acting styles, through scene study, as they apply from Shakespeare through modern playwrights.

475/575 ACTING FOR THE MUSICAL THEATRE 3 credits
Prerequisites: 373, 7520:124, permission of instructor. A scene study course in analyzing and performing roles in American musicals. Accompanist provided.

490/590 WORKSHOP IN THEATRE ARTS 1-3 credits
490: (May be repeated for a total of eight credits) 590: (May be repeated for a total of six credits toward degree) Prerequisite: advanced standing or permission. Group study or group projects investigating particular phase of theatre arts not covered by other courses in curriculum.

THEATRE 7800:

100 EXPERIENCING THEATRE 3 credits
Experience the theatre as a live, dynamic art form through an exposure to and participation in University productions.

106 INTRODUCTION TO SCENIC DESIGN 3 credits
Introduction to the theory of scene design and imagery. The course may include the application of these principles to other media.

107 INTRODUCTION TO STAGE COSTUME TECHNIQUES 3 credits
Introduction to basic costume construction techniques, organization and maintenance of wardrobe for theatrical performance. Lab required.

145 MOVEMENT FOR ACTORS I 3 credits
Specialized physical training for the actor.

151 VOICE FOR THE STAGE 3 credits
Speech improvement as it specifically applies to the stage. This course is concerned with the proper techniques and principles of vocal production in their practical application to stage performance.

172 ACTING I 3 credits
Introductory fundamentals of acting through the investigation of the body as an instrument for the stage, improvisation and basic scene study.

205 THEATRE ORGANIZATION AND MANAGEMENT 3 credits
Study of successful organization and management of professional and nonprofessional theatre operations.

215 PRODUCTION AND STAGE MANAGEMENT 3 credits
An in-depth study of productions and stage management practices including scheduling, running rehearsals, creating a prompt book, calling shows and inter-area communications.

225 STAGE LIGHTING 3 credits
History, theories, practices, and the craft of lighting for the stage.

230 DEVELOPMENT OF THEATRE: HISTORY OF THE THEATRE 3 credits
Prerequisite: 100 or permission of instructor. Theatre history from the Greeks to the present with the emphasis on the physical theatre, stage conventions, and theatre architecture of each period.

245 MOVEMENT FOR ACTORS II 3 credits
Prerequisite: 145. Specialized training, integrating the actor's physical and vocal instrument.

262 STAGE MAKEUP 3 credits
Theory and practice in the application of stage makeup from juvenile to character. Lecture/laboratory.

263 SCENE PAINTING 3 credits
The development of skills and knowledge of stage scenic painting required for the theatre designer and technician. Laboratory required.

265 BASIC STAGECRAFT I 3 credits
Basic stagecraft including equipment, construction and handling of two-dimensional scenery and theatrical hardware. Laboratory required.

THEATRE ORGANIZATIONS

7810:

- 100 PRODUCTION LABORATORY-DESIGN/TECHNICAL** 1 credit
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre.
- 110 PERFORMANCE LABORATORY** 1 credit
(May be repeated for a total of 12 credits) Prerequisites: permission of instructor. Provides student with practical performance experience in theatre productions.
- 200 PRODUCTION LABORATORY-DESIGN/TECHNICAL** 1 credit
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre.
- 210 PERFORMANCE LABORATORY** 1 credit
(May be repeated for a total of 12 credits) Prerequisites: permission of instructor. Provides student with practical performance experience in theatre productions.
- 300 PRODUCTION LABORATORY-DESIGN/TECHNICAL** 1 credit
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre.
- 310 PERFORMANCE LABORATORY** 1 credit
(May be repeated for a total of 12 credits) Prerequisites: permission of instructor. Provides student with practical performance experience in theatre productions.
- 400 PRODUCTION LABORATORY-DESIGN/TECHNICAL** 1 credit
Prerequisite: permission of instructor. (May be repeated for a total of 12 credits) Provides student with practical experience in technical aspects of theatre.
- 410 PERFORMANCE LABORATORY** 1 credit
(May be repeated for a total of 12 credits) Prerequisite: permission of instructor. Provides student with practical performance experience in theatre productions.

DANCE

7900:

- 115 DANCE AS AN ART FORM** 2 credits
Survey of dance for novice observer: aesthetics, philosophies, methods of training. Lecture and discussion of readings, viewing of film, videotape and live performances.
- 119 INTRODUCTION TO CONTEMPORARY DANCE I** 2 credits
(May be repeated for a total of four credits) Course for novice dancers and teachers wishing to explore contemporary styles and techniques.
- 120 INTRODUCTION TO CONTEMPORARY DANCE II** 2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Continuation of 119. Expansion of contemporary movements and techniques.
- 124 INTRODUCTION TO BALLET I** 2 credits
(May be repeated for a total of four credits) Emphasis on body placement, muscular awareness.
- 125 INTRODUCTION TO BALLET II** 2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Continuation of 124, basic exercises of classical ballet.
- 130 INTRODUCTION TO JAZZ DANCE I** 2 credits
Basic jazz dance technique and jazz dance origins.
- 219 INTRODUCTION TO CONTEMPORARY DANCE III** 2 credits
Prerequisite: permission of instructor. Continuation of 120, expanding the contemporary dance techniques, designed to perfect the student's technique for entering the *Contemporary Technique I*.
- 220 INTRODUCTION TO CONTEMPORARY DANCE IV** 2 credits
Prerequisite: permission of instructor. Continuation of 219, expanding the contemporary dance techniques, designed to perfect the student's technique for entering the *Contemporary Technique I*.
- 224 FUNDAMENTAL BALLET TECHNIQUE** 3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Continuation of 124, 125. Emphasis on barre and developing strength.
- 230 INTRODUCTION TO JAZZ DANCE II** 2 credits
Prerequisite: 130. Continuation of basic jazz technique and stylistic range of jazz dance.
- 324 TAP TECHNIQUE I** 2 credits
Emphasizes basic tap combinations and routines, tap terminology and methods for recording combinations. Special clothing/shoes required.
- 378 TAP TECHNIQUE II** 2 credits
Prerequisites: 124, 125, 324. A study of more complex routines and combinations, including syncopation, classical tap and style (Astaire, Kelly, Vereen, Draper, Bolger). Special clothing/shoes.
- 403 SPECIAL TOPICS IN DANCE** 1-4 credits
(May be repeated as different subject areas are covered, but no more than 10 credits may be applied toward B.A. degree) Prerequisite: permission. Traditional and nontraditional topics in dance, supplementing courses listed in *General Bulletin*.
- 490/590 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 phase of dance not covered by other courses in curriculum.

DANCE ORGANIZATIONS

7910:

- 101 CLASSICAL BALLET ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of classical ballet repertoire.
- 102 CHARACTER BALLET ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of character ballet repertoire.
- 103 CONTEMPORARY DANCE ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of contemporary dance repertoire.
- 104 JAZZ DANCE ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of jazz dance repertoire.
- 105 MUSICAL COMEDY ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of dance production numbers in a musical comedy.
- 106 OPERA DANCE ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of dance sequences in an opera.
- 107 EXPERIMENTAL DANCE ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of avant-garde dances.
- 108 CHOREOGRAPHER'S WORKSHOP** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of student dances.
- 109 ETHNIC DANCE ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of ethnic dance repertoire.
- 110 PERIOD DANCE ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of dances from specific historical periods such as the Renaissance or Baroque eras.
- 111 TOURING ENSEMBLE** 1 credit*
By audition only. Participation in rehearsal and preparation for public performance of any dances prepared for touring purposes.

DANCE PERFORMANCE

7920:

- 116 PHYSICAL ANALYSIS FOR DANCE I** 2 credits
Required for all dance majors. Recommended to be taken in first two years. Lecture/laboratory. Skeletal and muscular analysis for dance technique.
- 117 PHYSICAL ANALYSIS FOR DANCE II** 2 credits
Prerequisite: 116. Support systems, conditioning injury prevention, rehabilitation, nutrition for dancers.
- 122 BALLET TECHNIQUE I** 5 credits
(May be repeated for a total of ten credits) Prerequisite: permission. Fundamental theory, vocabulary, structure, placement. Concurrent enrollment in pointe/men's class recommended.
- 141 POINTE I** 2 credits
(May be repeated for a total of six credits) Prerequisite: permission. Reinforcement of selection principles for pointe shoes, proper holding of foot muscularly and control of heel while ascending and descending from pointe.
- 222 BALLET TECHNIQUE II** 5 credits
(May be repeated for a total of 20 credits) Prerequisite: permission. Continuation of 122, expanding theory on vocabulary, structure, placement. Concurrent enrollment in pointe/men's class recommended.
- 229 CONTEMPORARY TECHNIQUE I** 3 credits
(May be repeated for a total of 12 credits) Prerequisite: permission. Expanding the basic contemporary dance techniques.
- 241 POINTE II** 2 credits
(May be repeated for a total of six credits). Prerequisite: permission. Continuation of 141. Continued development of strength, coordination and endurance of holding foot muscularly. Further development and emphasis on principles of weight transfer.
- 316 CHOREOGRAPHY I** 2 credits
Prerequisite: Permission of the instructor. Theoretical and practical introduction to principles of choreography: space, time, energy.
- 317 CHOREOGRAPHY II** 2 credits
Prerequisite: 316 and permission. Continuation of 316. Emphasis on musical choices and finding movement specific to the individual choreographer.
- 320 DANCE NOTATION** 2 credits
Beginning study of Labanotation method of recording movement, and preparation for beginners' examination of the Notation Bureau.
- 322 BALLET TECHNIQUE III** 5 credits
(May be repeated for a total of 30 credits) Prerequisite: permission. Continuation of 222. Emphasis on technique, style and line. Concurrent enrollment in pointe/men's class recommended.
- 329 CONTEMPORARY TECHNIQUE II** 3 credits
(May be repeated for a total of 12 credits) Prerequisite: permission. Continuation of 229. Expanded development of contemporary techniques.

*Any 7910 course may be repeated for credit. Total credit for graduation may not exceed 12 credits. All courses are by audition only.

- 334 PAS DE DEUX I** 2 credits
(May be repeated for a total of six credits.) Prerequisites: permission; concurrent enrollment in a pointe class. Female students must be concurrently enrolled in pointe class. Provides student with the beginning understanding and practice of pas de deux.
- 341 POINTE III** 2 credits
(May be repeated for a total of six credits.) Prerequisite: permission. Continuation of 241. Advancement, development and application of principles of classical ballet technique through work on small variations, codas, enchainements and tour de force exercises.
- 342 MEN'S CLASS** 2 credits
(May be repeated for a total of eight credits.) Prerequisites: 122, permission. A classical ballet class focusing on tour de force and virtuoso movements specific to the male dancer.
- 351 JAZZ DANCE STYLES** 2 credits
Prerequisite: 7900:130 or placement audition. Intermediate jazz dance technique and the jazz eras.
- 361 LEARNING THEORY FOR DANCE** 2 credits
Prerequisites: 7900:115; 7900:224; or permission of instructor. Theories of learning and their use in teaching dance.
- 362 INSTRUCTIONAL STRATEGIES FOR DANCE** 2 credits
Prerequisite: 361. Practical work and development of teaching skills in dance for public and private settings.
- 403 SPECIAL TOPICS IN DANCE** 1-4 credits
Prerequisite: Permission. (May be repeated. No more than 10 credits may be applied toward the B.F.A. or B.A.) Traditional and nontraditional topics in dance.
- 416 CHOREOGRAPHY III** 2 credits
Prerequisite: 317, permission. Continuation of 317. Emphasis on form and choreographic analysis.
- 417 CHOREOGRAPHY IV** 2 credits
Prerequisite: 416 and permission. Continuation of 416. Expanding into group choreography and longer works.
- 422 BALLET TECHNIQUE IV** 5 credits
(May be repeated for a total of 20 credits) Prerequisite: permission. Continuation of 322, professional level of technique. Concurrent enrollment in pointe/men's class recommended.
- 431 DANCE HISTORY: PREHISTORY TO 1661** 2 credits
Prerequisite: 115 or permission. Study of important developments from prehistory through the Renaissance to the founding of the French Academy of Dance.
- 432 DANCE HISTORY: 1661 THROUGH DIAGHILEV ERA** 2 credits
Prerequisite: 115 or permission. Development of dance beginning with the establishment of the French Academy through the Romantic and Diaghilev Eras and their influence on current dance.
- 433 DANCE HISTORY: 20th CENTURY** 2 credits
Prerequisite: 115 or permission. Development of modern dance as an art form and the further evolution of ballet and concert dance.
- 434 PAS DE DEUX II** 2 credits
(May be repeated for a total of six credits.) Prerequisites: 334, permission; concurrent enrollment in a pointe class. Female students must be concurrently enrolled in pointe class. Provides the student with advanced understanding and practice of pas de deux.
- 451 ADVANCED JAZZ DANCE STYLES** 2 credits
Prerequisite: 351 or placement audition. Advanced jazz dance technique and styles for the professional dancer.
- 461 SEMINAR AND FIELD EXPERIENCE IN DANCE EDUCATION** 2 credits
Prerequisite: 362. Supervised observation and teaching experience in dance education in the field. Concurrent enrollment in 7910:108 Choreographers Workshop.
- 462 PROFESSIONAL ISSUES IN DANCE** 2 credits
Prerequisite: 461. An examination of current issues and goals in dance education. Concurrent enrollment in 7910:108 Choreographers Workshop.
- 490/590 WORKSHOP IN DANCE** 1-3 credits
Prerequisite: Advanced standing or permission. (May be repeated for a total of eight credits. Group study/projects investigating a particular field of dance not covered by other courses.
- 497 INDEPENDENT STUDY IN DANCE** 1-3 credits
(May be repeated for a total of four credits.) Prerequisite: permission and prearrangement with instructor. Individual creative project, research or readings in dance with faculty advisor.
- 496 SENIOR HONORS PROJECT IN DANCE** 1-3 credits
(May be repeated for a total of six credits.) Prerequisites: senior standing in Honors Program and approval of department preceptor. Creative project or research supervised by dance preceptor.

College of Nursing

COOPERATIVE EDUCATION 8000:

301 COOPERATIVE EDUCATION 0 credits
(May be repeated). For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

NURSING 8200:

100 INTRODUCTION TO NURSING 1 credit
Introduces students to influences of past, present, and future political, legal, social, and cultural processes on nursing profession and the roles of nurses.

101 INTRODUCTION TO BACCALAUREATE NURSING 1 credit
Prerequisite: Registered Nurse/Licensed Practical Nurse. Introduces R.N. and L.P.N. students to the purposes of baccalaureate nursing education. Explores philosophy, nursing theories, research, emerging roles, nursing process, and health care delivery system.

200 NURSING THEORIES AND CONCEPTS 5 credits
Prerequisites: 100, admission to college. Demonstrates relationship of relevant theories, concepts from various sciences to individual's interaction with ecosystem nursing, and health care system. Exposure to research process begins.

300 NURSING: HEALTH 10 credits
Prerequisite: 200. Focuses on healthy individual's adaptation across life cycle. Application of nursing process, basic nursing skills in health-oriented settings. Continued exposure to research process.

305 NURSING THEORIES, CONCEPTS, AND RESEARCH 6 credits
Prerequisite: 101, admission to college. The specific focus is to relate concepts, theories and investigate projects to the practice of nursing in a health-care system using the nursing process.

315 PATHOPHYSIOLOGY FOR NURSES 3 credits
Prerequisite: junior standing. Develop understanding of basic concepts related to pathophysiologic mechanism of health, illness as applied to nursing. Emphasis on application to nursing using the nursing process.

320 NURSING: DIMINISHED HEALTH I 12 credits
Prerequisites: 100, 200, 300. Human maladaptation throughout life cycle. Emphasis on interactions within an ecosystem approach. Nursing process used to view this approach as holistic adaptation.

330 FUNDAMENTALS OF PHARMACOLOGY 3 credits
Prerequisite: 300 or concurrent registration. Emphasis on fundamental concepts of pharmacology as applied to major drug classes, actions, and effects. Application of nursing process to drug therapy across life span.

340 CREATIVITY AND INNOVATION IN NURSING RESEARCH 2 credits
Prerequisite: junior standing. The elements in a nursing research proposal, nursing research report, and methods of communicating nursing research are presented in a creative and individualized environment.

400 NURSING: DIMINISHED HEALTH II 12 credits
Prerequisite: 320. Assist students in applying knowledge, skills, nursing process for integrated approach to nursing in various settings, also developing leadership, change-agent roles utilizing teaching/learning process.

405 HEALTH MAINTENANCE NURSING 5 credits
Prerequisite: 305. Designed to focus on healthy individuals throughout the life cycle. Theory and practice focus on healthy individual's reciprocal interaction with ecological variables.

415 DIMINISHED HEALTH NURSING 6 credits
Prerequisite: 305. Focus on assisting individuals and families experiencing diminished health to attain, maintain and regain optimal levels of health including application of nursing process.

420 NURSING: SYNTHESIS 10 credits
Prerequisite: 400. Requires synthesis of previous learning to provide nursing care to individuals, families, and communities across life span in acute, community settings.

425 BASIC ASSESSMENT 3 credits
Prerequisite: senior standing. Emphasis on collection of complete health histories, also performance of systematic physical assessments across life span. Health care deficits, assets, and future planning are included.

430/530 HEALTH-CARE (CURRENT YEAR): ISSUES AND NURSING 2 credits
Prerequisite: acceptance in the college. Survey and exploration of the state of health-care delivery in the United States today and the ramifications and implications for nursing.

435 BASIC RESEARCH 2 credits
Prerequisite: senior standing. Presents an overview of the research process and approaches to research. The importance of nursing research is discussed.

450 CONCEPTS AND THEORIES OF PROFESSIONAL NURSING 3 credits
Prerequisite: admission to college. Selected concepts and theories relevant to professional nursing are studied and related to nursing practice. Critical thinking strategies are utilized to examine nursing theories and concepts.

460 ISSUES AND ROLES OF THE PROFESSION OF NURSING 3 credits
Prerequisite: admission to college. The focus of the course is to relate role theory to personal and professional life. Issues affecting the nursing profession and delivery of nursing care are addressed.

470 COMMUNITY HEALTH NURSING 4 credits
Prerequisite: 450, 460. Explores selected concepts and issues relevant to community health nursing. The effect of legal, ethical, economic, and political issues on community health nursing is discussed.

480 SENIOR HONORS PROJECT 1-3 credits
Prerequisites: senior standing in Honors Program and nursing major. A creative project, independent study or research relevant to nursing which is supervised by a faculty preceptor and/or sponsor.

485 LEADERSHIP AND MANAGEMENT ROLES IN PROFESSIONAL NURSING 5 credits
Prerequisites: 450, 460, 470. Focuses on advanced role transition as it relates to the resocialization process of professional nurses. Relates the resocialization of the nurse to leadership and management roles.

489/589 SPECIAL TOPICS: NURSING 1-4 credits
(May be repeated as new topics are presented) Group studies of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit.

493/593 WORKSHOPS 1-3 credits
(May be repeated as new topics are presented) Group studies of special topics in nursing. May not be used to meet college undergraduate or graduate major requirements. May be used for elective credit only.

497 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of instructor and good academic standing. Provides opportunity to develop greater depth in an area of nursing through methodology specific to discipline of nursing.

498/598 SPECIAL READINGS 1-4 credits
Prerequisite: permission of student's adviser or dean. Special readings in an area of concentration may be taken to satisfy elective credit. Special readings may not be used to satisfy requirements of the major.

College of Polymer Science and Polymer Engineering

POLYMER ENGINEERING 9841:

- 425 INTRODUCTION TO BLENDING AND COMPOUNDING OF POLYMERS** 2 credits
Prerequisites: 4200:321; 4300:341; 4600:310 or permission. Nature of polymer blends and compounds and their application. Preparation and technology using batch and continuous mixers, mixing mechanisms.
- 427 INTRODUCTION TO MOLDING TECHNOLOGY** 3 credits
Prerequisites: 4200:321; 4300:341; 4600:310 or permission. Molding methods to manufacture polymeric products. Machinery, materials, molds, equipment, computer-aided design.
- 450 MECHANICAL ENGINEERING PROPERTIES AND PROCESSING OF POLYMERS** 3 credits
Prerequisites: 4600:315, 336 and 380 or permission. Introductory course to engineering properties and processing of polymers. Analysis of mechanical tests of polymers in the glassy, rubbery, and fluid states. Product design. Concepts of rheology, rheometry and polymer processing.
- 499 POLYMER ENGINEERING PROJECT** 3 credits
Prerequisite: Individual research project pertinent to polymer engineering under faculty supervision.

POLYMER SCIENCE 9871:

- 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 processes involved in outlining projects, setting up equipment, collecting and recording research data in a scientific manner.

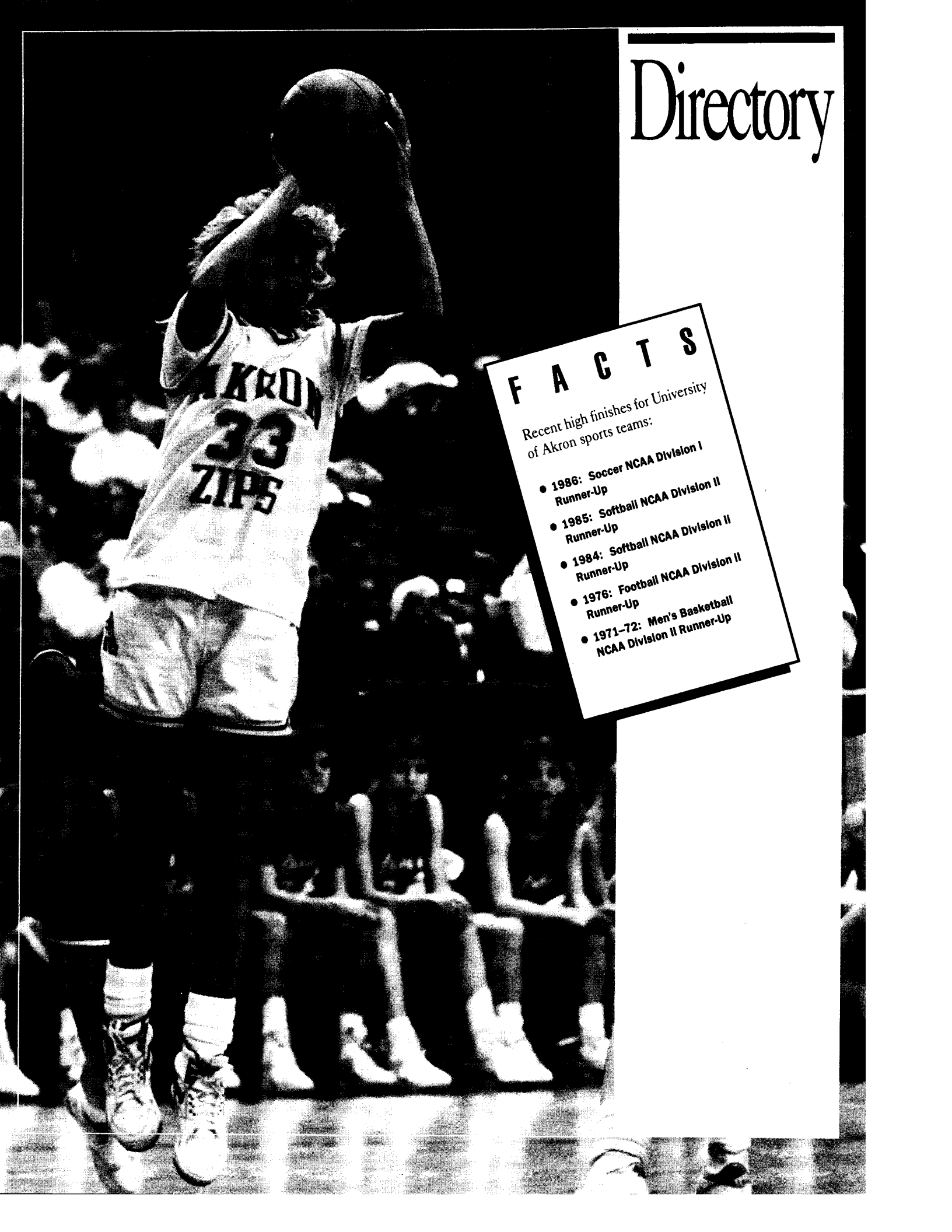
- 401 INTRODUCTION TO ELASTOMERS** 3 credits
Prerequisites: physical chemistry (or equivalent) or permission. An introduction to the science and technology of elastomeric materials. Lecture and laboratory.
- 402 INTRODUCTION TO PLASTICS** 3 credits
Prerequisite: 401. An introduction to the science and technology of plastic materials. Lecture and laboratory.
- 407 POLYMER SCIENCE** 4 credits
Prerequisite: 3150:314 or 3650:301 or permission. Principles of polymerization processes and relationships between molecular structures and physical behavior of polymers. Molecular weight distributions of macromolecules discussed and methods of determining molecular weights utilized.
- 411/511 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS I** 3 credits
Prerequisite: 301 or 302 or permission. Interdisciplinary course involving the principles of chemistry and physics are brought to bear on relationships between molecular structure and chemical composition of macromolecules and their physical properties.
- 412/512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS II** 2 credits
Prerequisite: 411/511 or permission. Mechanical characterization of polymeric materials, the Boltzmann superposition principle and fracture. Experimental techniques involving stress-strain behavior, stress relaxation, creep, forced and free vibrations discussed.
- 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 unsolved problems of polymer science discussed from interdisciplinary view of material sciences. A student prepares one or more formal technical presentations 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 EXTRUSION AND MOLDING** 3 credits
Prerequisite: 302 or permission. Introduction of extrusion and molding processes for plastics. Theory of extrusion and molding processes and their application to the types of materials used, variations 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 will be related to molecular structure. Specific materials, applications and testing procedures will be discussed and practical experience gained by experimentation in the laboratory.
- 418 COMPOSITES, CELLULAR STRUCTURES AND TIRE TECHNOLOGY** 4 credits
Prerequisite: 302 or permission. The importance and science of composite structures will be taught and applied to the technology of foam and tire manufacture. Laboratory experiments will be used to illustrate the principles involved.
- 490/590 WORKSHOP IN POLYMER SCIENCE** 1-3 credits
(May be repeated with permission) Group studies on selected topics involving polymers. May not be used to meet undergraduate or graduate major requirements in polymer science. May be used for elective credit only.
- 499 RESEARCH PROBLEMS IN POLYMER SCIENCE** 1-3 credits
Prerequisite: permission. Faculty-supervised undergraduate research problems in polymer science, culminating in a written report.

Directory

F A C T S

Recent high finishes for University of Akron sports teams:

- 1986: Soccer NCAA Division I Runner-Up
- 1985: Softball NCAA Division II Runner-Up
- 1984: Softball NCAA Division II Runner-Up
- 1976: Football NCAA Division II Runner-Up
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September 1991

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MAX S. WILLIS, JR., *Associate Dean of Graduate Studies and Research, Engineering*, Ph.D.
JOHN R. WRAY, *Treasurer*, J.D.
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Emeritus Faculty

September 1991

- NORMAN P. AUBURN**, *President Emeritus of the University, Professor Emeritus of Political Science and Consultant* (1951) (Ret. as President 1971; Consultant 1971-); B.A., University of Cincinnati, 1927; LL.D. Parsons College, 1945; LL.D., University of Cincinnati, 1952; D.Sc. University of Tulsa, 1957; LL.D. University of Liberia (West Africa), 1959; Litt.D., Washburn University of Topeka, 1961; L.H.D., College of Wooster, 1963; LL.D., The University of Akron, 1971; D.C.L. Union College, 1979.
D. J. GUZZETTA, *President Emeritus; Professor Emeritus of Higher Education* (1954-March 1968) (August 1971) (Retired as President September 1984) (Retired August 1985) B.A., Ed.M., Ed.D., University of Buffalo, 1953; LL.D., The University of Akron, 1968; D.S.Sc., Marian College, 1971; LL.D., Kent State University, 1971; L.H.D., Walsh College; LL.D., Bellevue College, 1978.
IRVING ACHORN, *Professor Emeritus of Art* (1965) (Ret. December 1983) B.S., M.A., Kent State University, 1956.
ALEXANDER L. ADAMS, *Assistant Professor Emeritus of Physical Education* (1970) (Ret. December 1989) B.S.Ed., M.S.Ed., The University of Akron, 1970.
DORIS ALDRICH, *Associate Professor Emeritus of Home Economics* (1973) (Ret. December 1988) B.S., M.Ed., Kent State University, 1972.
VIRGINIA L. ALLANSON, *Associate Professor Emeritus of Bibliography* (1968) (Ret. June 1984) B.S., Purdue University; M.L.S., Kent State University, 1966.
JOHN ARENDT, *Instructor Emeritus in Surveying and Construction Technology* (1967) (Ret. 1980) B.S.M.E., Cleveland State University, 1944.
WALTER E. ARMS, *Associate Professor Emeritus of Education* (1968) (Ret. July 1989) B.S., Northwest Missouri State College; M.Ed., University of South Dakota; Ed.D., Indiana University at Bloomington, 1968.
BARBARA N. ARMSTRONG, *Professor Emeritus of Home Economics* (1972) (Ret. December 1989) B.S., M.S., West Virginia University; Ph.D., The Ohio State University, 1970.
WILLIAM J. ARN, *Professor Emeritus of Education* (1967) (Ret. December 1983) B.S.Ed., Ohio Northern University; M.S. Ed., Bowling Green State University; Ph.D., Kent State University, 1967.
HELEN MAE ARNETT, *Associate Professor Emeritus of Bibliography* (1953) (Ret. 1972) B.A., The University of Akron; B.S.L.S., Case Western Reserve University; M.A., San Jose State College (California); Ph.D., Case Western Reserve University, 1965.
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GERTRUDE BADGER, *Associate Professor Emeritus of Education* (1965) (Ret. 1977) B.S.Ed., B.A., The Ohio State University; M.Ed., Kent State University, 1960.
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ARPAD FREDERIC BANDA, *Professor Emeritus of Finance* (1968) (Ret. December 1988) B.S., City College of New York; M.B.A., Ph.D., New York University, 1964; C.F.A.

- JAMES P. BANKS**, *Director Emeritus of Development* (May 1974) (Ret. January 1967) B.S., Ohio University, 1950.
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- MARIAN L. BAUER**, *Associate Professor Emeritus of Nursing* (1969) (Ret. 1982) B.A., Maryville College; M.N., Western Reserve University, 1941; R.N.
- IRENE C. BEAR**, *Professor Emeritus of Home Economics* (1944) (Ret. 1968) B.S., Illinois Wesleyan University; M.A., Texas State College for Women, 1937.
- DONALD E. BECKER**, *Associate Professor Emeritus of Management* (1959) (Ret. 1988) B.A., M.A., Oberlin College, 1948.
- WILLIAM C. BECKER**, *Associate Professor Emeritus of Law* (1985) (Ret. July 1988) A.B., Harvard University; J.D., University of Michigan, 1956.
- CLARE BEDILLION**, *Associate Professor Emeritus in the Community and Technical College* (1968) (Ret. 1975) B.A., Woman's College of Georgia; M.A., New York University; Ph.D., University of Michigan, 1974.
- EUGENE M. BENEDICT**, *Assistant Professor Emeritus in the Community & Technical College* (January 1969) (Ret. 1982) M.Div., Boston University School of Theology; B.A.Ed., M.A., The University of Akron, 1964.
- DONALD K. BERQUIST**, *Associate Professor Emeritus of Accounting* (1968) (Ret. December 1988) B.S. B.A., Youngstown State University; M.Acct., The Ohio State University, 1964; C.P.A., Ohio.
- ROBERT C. BERRY**, *Director of Placement Emeritus* (1946) (Ret. 1976) B.S.B.A., The University of Akron, 1942.
- MICHAEL BEZBATCHENKO**, *Professor Emeritus of Mechanical Engineering* (June 1949) (Ret. 1979) B.M.E., The University of Akron; M.S., Case Western Reserve University, 1954; P.E., Ohio.
- CLARK E. BIGGINS**, *Director of Purchasing Emeritus* (April 1967) (Ret. June 1985) B.S.C., Ohio University, 1957.
- VINCENT J. BIONDO**, *Assistant Professor Emeritus of Education* (1968) (Ret. 1976) B.A., M.A., M.A.Ed., The University of Akron, 1957.
- DONALD F. BIRDSELL**, *Professor Emeritus of Education* (1977) (Ret. 1988) B.A., Luther College; M.A., University of Minnesota; Ph.D., University of Iowa, 1965.
- ROBERT R. BLACK**, *Associate Professor Emeritus of Economics* (1958) (Ret. 1983) B.A., Carleton College; M.B.A., University of Chicago; Ph.D., University of California at Berkeley, 1963.
- C. ROBERT BLANKENSHIP**, *Instructor Emeritus in Education* (1952) (1956) (Ret. 1982) B.S.B.A., The University of Akron; M.S.Ed., Indiana University, 1963.
- BORIS BLICK**, *Associate Professor Emeritus of History* (1964) (Ret. August 1989) B.A., Brooklyn College; M.A., Ph.D., University of Wisconsin at Madison, 1958.
- JOHN A. BLOUGH**, *Professor Emeritus of Education* (1979) (Ret. August 1986) B.A., College of Wooster; Ph.D., The Ohio State University, 1971.
- DONALD L. BOWLES**, *Vice President for Administrative Services Emeritus* (February 1959) (Ret. December 1989) B.S.I.M., B.A.Ed., The University of Akron, 1959.
- ALLEN M. BOYER**, *Member of the General Faculty Emeritus* (November 1966) (Ret. 1982) B.A., The University of Akron, 1942.
- FRANK BRADSHAW**, *Professor Emeritus of Music* (1968) (Ret. December 1988) B.A., M.A., Bob Jones University, 1950.
- MARKO BRDAR**, *Associate Professor Emeritus of Chemical Engineering* (1967) (Ret. 1982) B.A., M.A., Case Western Reserve University, 1954.
- ARTHUR E. BURFORD**, *Professor Emeritus of Geology* (1968) (Ret. December 1989) B.A., Cornell University; M.S., University of Tulsa; Ph.D., University of Michigan, 1960.
- DONALD R. BURROWBRIDGE**, *Professor Emeritus of Coordination* (July 1965) (Ret. 1986) B.S., University of Wisconsin; M.S., Virginia Polytechnic Institute, 1965.
- ALBERT C. BUXTON**, *Associate Professor Emeritus of Electronic Technology* (January 1975) (Ret. 1986) B.S.E.E., M.S.E.E., Tulane University, 1951.
- MARY CAPOTOSTO**, *Assistant Professor Emeritus of Communicative Disorders* (1968) (Ret. 1983) B.A., The University of Akron; M.A., DePaul University, 1967.
- CAESAR A. CARRINO**, *Dean Emeritus of the Evening College and Summer Sessions; Professor Emeritus of Education* (1967) (Ret. June 1989) B.S.Ed., Baldwin-Wallace College; M.S.Ed., The University of Akron; Ph.D., Case Western Reserve University, 1965.
- ROBERT C. CARSON**, *Associate Professor Emeritus of Mathematical Sciences* (July 1963) (Ret. 1989) B.S., M.S., Purdue University; Ph.D., University of Wisconsin at Madison, 1953.
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- YONG H. CHO**, *Professor Emeritus of Urban Studies* (1967) (Ret. August 1989) B.A., Seoul National University (Korea); M.P.A., Ph.D., Syracuse University, 1965.
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- CONSTANTIN DIMITRIU**, *Assistant Professor Emeritus of Classics* (May 1970) (Ret. 1986) Baccalaureate, University of Cluj, Romania; M.A., National University of Bucuresti; M.S.L.S., Case Western Reserve University, 1969.
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- ROBERT E. FERGUSON**, *Professor Emeritus of Education* (1965) (Ret. December 1983) B.S., M.A., Kent State University; Ed.D., Case Western Reserve University, 1965.
- ALICE M. FLAKSMAN**, *Associate Professor Emeritus of Music* (1965) (Ret. 1978) B.A., Hunter College; M.A., Columbia University, Teachers College; Ph.D., The University of Akron, 1972.
- WILLIAM S. FLEMING**, *Professor Emeritus in the Community and Technical College* (1966) (Ret. May 1991) B.Sc.Ed., Rutgers University; M.A., University of Pennsylvania; Ph.D., Kent State University, 1970.
- VAUGHN W. FLOUTZ**, *Professor Emeritus of Chemistry* (1941) (Ret. 1970) B.A., Olivet College; M.A., Ph.D., University of Colorado, 1932.
- DOROTHY A. FRANCY**, *Certification Coordinator Emeritus* (1979) (Ret. 1988) B.S., M.S., The University of Akron, 1973.
- PAULINE FRANKS**, *Professor Emeritus of Bibliography* (April 1950) (Ret. December 1983) B.S. Ed., Kent State University; B.S.L.S., Case Western Reserve University, 1940.
- ROBERT N. GANDEE**, *Professor Emeritus of Physical Education* (1973) (Ret. 1989) B.S., M.S., The University of Akron; Ph.D., The Ohio State University, 1972.
- PAUL D. GARN**, *Professor Emeritus of Chemistry* (1963) (Ret. 1989) B.S., M.S., Ph.D., The Ohio State University, 1952.
- THOMAS E. GETZINGER**, *Assistant to the Vice President for Business and Finance Emeritus* (1969) (Ret. December 1989) B.S.B.A., The University of Akron; M.B.A., Kent State University, 1966. C.P.A.
- WILLIAM M. GLAZIER**, *Professor Emeritus of Surveying and Construction Technology; Professor Emeritus of Construction Technology* (1958) (1967) (Ret. December 1989) B.S.C.E., Michigan Technical University; M.S.C.E., University of Michigan; Ph.D., West Virginia University, 1978. P.E. Ohio, Michigan and District of Columbia.
- HOWARD L. GREENE**, *Professor Emeritus of Chemical Engineering* (1965) (Ret. December 1989) B.Ch.E., M.Ch.E., Ph.D., Cornell University, 1966.
- EDNA P. GRIST**, *Associate Professor Emeritus of Nursing* (January 1968) (Ret. February 1989) B.S.N.Ed., M.S.Ed., The University of Akron, 1967; R.N.
- ROBERT S. GRUMBACH**, *Associate Professor Emeritus of Electrical Engineering* (1961) (Ret. 1987) B.S.E.E., Case Western Reserve University; M.S.E.E., West Virginia University, 1951.
- BARBARA A. GSELLMAN**, *Instructor Emeritus in Mechanical Technology* (1967) (Ret. 1988) B.M.E., The University of Akron, 1950.
- GORDON A. HAGERMAN**, *Member of the General Faculty Emeritus* (July 1941) (Ret. 1981) B.A., The University of Akron, 1941.
- DOROTHY HAMLIN**, *Professor Emeritus of Bibliography* (February 1937) (Ret. 1972) B.A., The University of Akron; B.S.L.S., Case Western Reserve University, 1942.
- RICHARD L. HANSFORD**, *Vice President and Dean Emeritus of Student Services* (August 1949) (Ret. December 1985) B.A.Ed., M.A.Ed., The University of Akron, 1954.
- CHARLOTTE M. HANTEN**, *Associate Professor Emeritus of Art* (1969) (Ret. 1982) B.A., Earlham College; M.Ed., Pennsylvania State University, 1954.
- EDWARD W. HANTEN**, *Professor Emeritus of Urban Studies; Professor Emeritus of Geography* (1963) (Ret. 1982) B.A., Earlham College; M.A., Ph.D., University of Pittsburgh, 1962.
- PHYLLIS M. HARDENSTEIN**, *Associate Professor Emeritus of Theatre Arts* (1947) (1956) (Ret. 1980) B.A., The University of Akron; M.A., University of Wisconsin, 1951.
- LESLIE P. HARDY**, *Financial Vice President Emeritus* (1934) (Ret. 1964) B.S.Ed., Kent State University; M.S.Ed., L.H.D., The University of Akron, 1966.
- MARY GRACE HARRINGTON**, *Associate Professor Emeritus of Bibliography* (1960) (Ret. 1976) B.S., The University of Akron; B.A.L.S., University of Michigan, 1939.
- DAVID N. HAWK**, *Associate Professor Emeritus of Finance* (1980) (Ret. December 1989) B.S., The Ohio State University; M.B.A., D.B.A., Kent State University, 1971.
- JOHN G. HEDRICK**, *Assistant Professor Emeritus of Associate Studies* (July 1967) (Ret. February 1989) B.S.Ed., Kent State University; M.A., University of Notre Dame, 1958.
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September 1991

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MARY J. ZYGMOND, Assistant Professor of Education (1987) B.A., University of Montana; M.S.W., University of Kentucky; Ph.D., Purdue University, 1984.

Full-Time Teaching Faculty

(by College, School and Department and the University Library)

September 1991

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ASSISTANT PROFESSORS: Jutta T. Bendremer, Daryl W. Palmer.

INSTRUCTORS: Alice MacDonald, Arlene A. Toth.

Geography

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PROFESSORS: Frank J. Costa, Ashok K. Dutt, Lathardus Goggins, Vern R. Harnapp, Laurence J. Ma, Thomas L. Nash.

ASSOCIATE PROFESSORS: Robert B. Kent II, Charles B. Monroe, John E. Mulhauser.

Geology

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PROFESSORS: Charles H. Carter, Lindgren L. Chyi, A. W. Kunze.

ASSOCIATE PROFESSORS: Roger J. Bain, Laverne M. Friberg, Jim L. Jackson, John P. Szabo.

ASSISTANT PROFESSOR: Annabelle Foos.

History

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Mathematical Sciences

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ASSISTANT PROFESSORS: Abdullah Abonamah, Chien-Chung Chan, Curtis B. Clemons, Josefina P. de los Reyes, Richard L. Einsporn, Mark A. Goddard, Bernard Greenspan, John A. Heminger, Kevin L. Kreider, Timothy S. Margush, David B. Stark, Kong-Cheng Wong.

Modern Languages

ACTING HEAD: Professor Hugo Lijeron.

PROFESSORS: Eugene A. Maio, Isaac Yetiv.

ASSOCIATE PROFESSORS: Jolita Kavaliunas, William I. Miller, Helen L. Ryan, Philip W. Stuyvesant.

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INSTRUCTORS: Stephen A. Faria, Janice Houser, Sys Inman, Knemhilde Livingston, Susan Schunk.

Philosophy

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PROFESSOR: Alan Hart.

ASSOCIATE PROFESSOR: James H. Buchanan, Howard DuCharme.

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ASSOCIATE PROFESSORS: Ronald E. Schneider.

ASSISTANT PROFESSORS: Philip R. Baldwin, Robert R. Malik.

Political Science

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PROFESSORS: David J. Louscher, Yogendra Malik, Frank Marni.

ASSOCIATE PROFESSORS: Denise L. Baer, Stephen C. Brooks, Richard K. Franklin, John C. Green, Bette S. Hill, Katherine Hinckley, Carl Lieberman, Christopher E. Smith.

ASSISTANT PROFESSORS: Nancy W. Marion, Marian A. Miller, James C. Sperling.

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ASSISTANT PROFESSORS: Rosalie Hall, Susan I. Hardin, Paul E. Levy, Gary J. Sipps, Daniel J. Svyantek, Charles A. Waehler.

Sociology

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ASSISTANT PROFESSORS: Rebecca J. Erickson, Kathryn M. Feltey, Elizabeth A. Mancz, Patricia M. Ulbrich.

Urban Studies

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ASSOCIATE PROFESSORS: Nancy K. Grant, Richard E. Klosterman, Douglas V. Shaw.

ASSISTANT PROFESSORS: Danny L. Balfour, Janet E. Orosz.

College of Engineering

Biomedical Engineering

HEAD: Associate Professor Daniel B. Sheffer.

DISTINGUISHED PROFESSOR: Jonathon S. Rakich.

PROFESSORS: Mamerto L. Chu, Daniel L. Ely, Gary R. Hamed, Frank W. Harris, Eberhard A. Meinecke, Richard A. Mostardi, Thomas E. Price, Narendra P. Reddy, Daniel J. Smith, Max S. Willis, Jr.

ASSOCIATE PROFESSORS: Peter J. Gingo, Karen M. Mudry, Stanley E. Rittgers, Daniel J. Smith, Bruce C. Taylor.

ASSISTANT PROFESSORS: Ray S. Fatemi, Glen O. Njus, Mary C. Verstraete.

Chemical Engineering

HEAD: Professor Sunggyu Lee.

PROFESSORS: Nicholas D. Sylvester, Max S. Willis, Jr.

ASSOCIATE PROFESSORS: Harry M. Cheung, Steven S. Chuang, J. Richard Elliott, Jr., Lawrence G. Foht.

ASSISTANT PROFESSORS: George G. Chase, Kathy L. Fullerton, Lu-Kwang Ju, Helen K. Qammar.

Civil Engineering

HEAD: Professor Tse Yung P. Chang.

PROFESSORS: D. G. Fertis, David N. Robinson, Simsek Sarikelle.

ASSOCIATE PROFESSORS: William B. Arbuckle, Clarence B. Drennon, Kenneth L. Klika, Robert Y. Liang, Atef F. Saleb.

ASSISTANT PROFESSORS: Wieslaw K. Binienda, Allen L. Sehn, Paul D. Simpson, Patrick D. Zuraski.

Electrical Engineering

HEAD: Professor Chiou-Shiun Chen.

PROFESSORS: Chun-Fu Chen, Gordon H. Danielson, Nathan Ida.

ASSOCIATE PROFESSORS: Jose A. Alexis De Abreu-Garcia, John Durkin, James Grover, Tom Hartley, Chaman N. Kashkari, Karen M. Mudry, Malcolm R. Railey, John T. Welch, Jr.

ASSISTANT PROFESSORS: Thomas J. Cavicchi, Malik E. Elbuluk, Glenn K. Heitman, F.N. Sibai, Robert J. Veillette, Mark S. Viola, Donald S. Zinger.

Mechanical Engineering

HEAD: Professor Benjamin T.F. Chung.

PROFESSORS: Minel J. Braun, Mamerto L. Chu, Jr., Azmi Kaya, Brian P. Leonard, Eberhard A. Meinecke, Joseph Padovan, Michael Savage, Rudolph J. Scavuzzo, Jr.

ASSOCIATE PROFESSORS: Celal Batur, Fred Kat-Chung Choy, Jerry E. Drummond, Richard J. Gross, Samuel G. Kelly III, Paul C. Lam, John S. Serafini.

ASSISTANT PROFESSORS: George Bibet, Scott J. Forbes, Yueh-Jaw R. Lin, Steven P. Rooke, Tirumalai S. Srivatsan.

College of Education

Counseling and Special Education

HEAD: Professor Theodore L. Gloeckler.

PROFESSORS: Dale Coons, James E. Doverspike, William E. Nemecek, Joseph M. Walton, David M. Weis, John J. Zarski.

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ASSISTANT PROFESSORS: Patricia L. Edwards, Matthew J. McTaggart, Sandra L. Perosa, Mary Jo Zygmund.

Educational Administration

HEAD:

ASSOCIATE PROFESSORS: Lloyd Leake, William Sharp, Wenifort Washington.

ASSISTANT PROFESSORS: Reene A. Alley.

Educational Foundations

HEAD: Professor Rita S. Saslaw.

PROFESSORS: M. Kay Alderman, Abdul Amir Al-rubaiy, Ralph O. Blackwood, Gerald J. Blumenfeld, Walden B. Crabtree, Ralph Darr, Jr., Charles M. Dye, John J. Hirschbuhl, Edward B. Lasher, Isadore Newman, Frederick M. Schulz.

ASSISTANT PROFESSORS: Suzanne C. MacDonald, Paul Schutz, Carolyn D. Whittington.

Elementary Education

HEAD: Professor Martha D. Collins.

PROFESSORS: Mary Ellen Atwood, Susan J. Daniels, Bernard L. Esprite, Loren L. Hoch, Regis Q. McKnight, LaVerne J. Meconi, Judith A. Noble, Robert Sovchik.

ASSOCIATE PROFESSORS: Jacqueline M. Anglin, David G. Barr, Blanche Clegg, Janet R. Reuter, Lynn A. Smolen, Norma L. Spencer.

ASSISTANT PROFESSORS: Violet E. Leathers, Barbara G. Moss.

Physical Education and Health Education

HEAD: Associate Professor Wyatt M. Webb.

PROFESSORS: J. Thomas Adolph, Bruce L. Hollering, Mary J. MacCracken.

ASSOCIATE PROFESSORS: Robert J. Mravetz.

ASSISTANT PROFESSORS: T. Allen Campbell, James L. Dennison, Doris McLittle-Marino, Davison Munodawafa, Victor E. Pinheiro.

Secondary Education

HEAD: Associate Professor Robert K. Eley.

PROFESSORS: Larry G. Bradley, Harold M. Foster, William E. Klingele, Marion A. Ruebel, Michael N. Sugarman, Stephen J. Thompson, Walter H. Yoder.

ASSOCIATE PROFESSOR: Bill J. Frye.

ASSISTANT PROFESSOR: Fred M. Carr, Susan G. Colville-Hall, Diana M. Hunn, Susan J. Olson.

College of Business Administration

Accounting

ACTING HEAD: Distinguished Professor Orville R. Keister, Jr.

PROFESSORS: Hobart W. Adams, Arthur D. Karlin, Dennis L. Kimmell, Roberta P. Marquette, Richard W. Metcalf, Charles K. Moore, Jr., Russell J. Petersen, Arjan T. Sadhwani.

ASSOCIATE PROFESSORS: Darlene R. Ahnberg, Allen M. Cabral, James L. Cress, James R. Emore, Gary B. Frank, Il-Woon Kim, Sharon L. Kimmell, Alvin H. Lieberman, Mostafa H. Sarhan.

ASSISTANT PROFESSORS: Onker Basu, Thomas G. Calderon, Edward J. Conrad, Emeka O. Ofofibe, Robert E. Rosacker, Linda Sugarman, James A. Weisel.

Finance

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ASSOCIATE PROFESSORS: Manuel L. Jose, Douglas R. Kahl, Karen E. Lahey, Harriidutt Ramcharran, David A. Redle, Arthur G. Wentz, Bernard S. Winick.

ASSISTANT PROFESSORS: Allen S. Anderson, Francis E. Canda.

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ASSISTANT PROFESSORS: Thomas L. Baker, Maria P. Heide, James T. Strong.

INSTRUCTOR: Paulette K. Polley.

College of Fine and Applied Arts

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PROFESSORS: Bruce R. Armstrong, Earl L. Ertman, Donald E. Harvey, Dennis A. Kleidon, Dennis A. Meyer, Mark E. Soppeland, Ronald D. Taylor, Donna S. Webb, Thomas D. Webb.

ASSOCIATE PROFESSORS: George Danhires, Christina DePaul, Robert J. Huff, James V. Lenavitt, Christopher P. Meyer, Penny Rakoff.

ASSISTANT PROFESSORS: Tyrone Geter, Gale Golembeski, Christopher Hoot, Edward J. Laughner, Harry Murutes, Vlada Vukadinovic, Hui-Chu Ying.

Communication

DIRECTOR: Professor John D. Bee.

PROFESSORS: David L. Jamison, Ruth B. Lewis, Linda L. Moore.

ASSOCIATE PROFESSORS: William D. Harpine, F. Dennis Lynch, Thomas T. Miles, Andrew S. Rancer, Nancy M. Somerick.

ASSISTANT PROFESSORS: Richard E. Caplan, Kathleen L. Endres, Gabriel F. Giralt, Brenda J. Jolley, Therese L. Lueck, Robert D. Ritchey, Dudley B. Turner.

Communicative Disorders

ACTING DIRECTOR: Professor James M. Lynn.

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DIRECTOR: Associate Professor Margaret A. Carlson.

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ASSISTANT PROFESSORS: Kathleen M. Davis, Frederick T. Smith.

Home Economics and Family Ecology

ACTING DIRECTOR: Professor Virginia J. Fleming.

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INSTRUCTOR: Elise Krigline.

Music

DIRECTOR: Professor DuWayne H. Hansen.

PROFESSORS: David S. Bernstein, Clifford S. Billions, Michael P. Haber, John A. MacDonald, Jr., Mary G. Schiller, Richard N. Shirey, Larry D. Snider, Ralph B. Turek, Sherman D. Vander Ark.

ASSOCIATE PROFESSORS: Tana F. Alexander, Alfred Anderson, Stephen Aron, Alan Bodman, Lyle Dye, Jr., Joel Fried, Virgil Hicks, William G. Hoyt, Jr., Andrew Jennings, Scott A. Johnston, Tucker R. Jolly, Robert Jorgensen, Edward Maclary, Barbara J. MacGregor, Roland R. Paolucci, Georgia K. Peoples, George S. Pope, Nikola Resanovic, Paul Schoenfield, Edward A. Zadrozny, Jr.

ASSISTANT PROFESSORS: David H. Bell, Nancy A. Cooper, Michael R. Golemo, Michael J. Kendall, James Ryon, Richard L. Shanklin, Lynn M. Tschudy.

Social Work

DIRECTOR: Professor Marvin D. Feit.

PROFESSORS: Gauri S. Rai, John S. Wodarski.

ASSOCIATE PROFESSORS: Robert Deitchman, Geraldine Faria, Virginia L. Fitch.

ASSISTANT PROFESSORS: James E. King I, Dolores R. Payne.

Theatre Arts

DIRECTOR: Professor Susan D. Speers.

PROFESSOR: Adel A. Migid-Hamza.

ASSOCIATE PROFESSORS: Paul A. Daum, Lyle Dye, Jr., Wallace Sterling.

ASSISTANT PROFESSORS: Robert Katkowsky, Dan J. Martin, James R. Slowiak.

College of Nursing

PROFESSORS: Dolores A. Bower, Velma Ruth Gray, Elizabeth J. Martin.

ASSOCIATE PROFESSORS: Diana Y. Barhyte, Elizabeth K. Beach, Mary Lou Byers, Janis M. Campbell, Jo Ann H. Collier, Dorothy M. Dobrindt, Janne R. Dunham, Phyllis A. Fitzgerald, Kristine M. Gill, Jeanne Hoffer, Mary Helen Kreidler, Linda G. Linc, Joanne M. Marchione, Elaine F. Nichols, Karen S. Reed, Kathleen M. Ross-Alaolmoki, Victoria Schirm, Susan J. Stearns, Nancy M. Wineman.

ASSISTANT PROFESSORS: Nancy L. Aho, Barbara Anandam, Joan E. Baumgardner, Cheryl L. Buchanan, Theresa M. Dowd, Mary F. Dugan, Victoria L. Elfrink, L. Irene Glanville, Judith A. Groenweg, Marjorie M. Heinzer, Marlene S. Huff, Betty C. Kinion, Louise M. Kusio, Gaynor E. Lanik, Deborah D. Lumley, Ellen J. Moore, June G. Patton, Willeane V. Schrock, Diana J. Sousa, Adele A. Webb, Christine Wynd.

INSTRUCTORS: LuAnn Beavers-Willis, Aris Beoglos, Ruth E. Carlson, Louise R. Cook, Helen C. Dannemiller, Elaine M. Fisher, Susan S. Gerberich, Alison K. Harrigan, Katharine Y. Kolcaba, Lynn M. Leon, Elaine E. Mott, Carolyn D. Pontius, Paula R. Renker, Cheryl B. Sadler, Christine L. Thomas, Stephanie J. Woods.

College of Polymer Science and Polymer Engineering

Polymer Science

HEAD: Professor Donald McIntyre.

DISTINGUISHED PROFESSOR: Joseph P. Kennedy.

PROFESSORS: Ronald K. Eby, Purushottam Das Gujrati, Gary R. Hamed, Frank W. Harris, H. James Harwood, Frank N. Kelley, Wayne L. Mattice, Donald McIntyre, Eberhard A. Meinecke, Roderic P. Quirk.

ASSOCIATE PROFESSORS: Steven Z. D. Cheng, John E. Frederick.

ASSISTANT PROFESSOR: William J. Brittain, Mark D. Foster, Vassilios Galitsatos.

INSTRUCTOR: Marcia E. Weidknecht.

Polymer Engineering

HEAD: Professor James L. White.

PROFESSORS: Alan N. Gent, Avraam I. Isayev, Thein Kyu, Arkadii I. Leonov, Nobuyuki Nakajima, Joseph Padovan.

ASSOCIATE PROFESSOR: Mukerrem Cakmak.

ASSISTANT PROFESSORS: Kyonsuku M. Cakmak.

Wayne College

PROFESSORS: Warner D. Mendenhall, Forrest Smith, Edwin Thall.

ASSOCIATE PROFESSORS: Thomas E. Andes, R. Diane Arnold, Monica L. Harrison, Louis M. Janelle, Jr., Robert L. McElwee, Janet L. Minc, Emily A. Rock, Kay E. Stephan, Tyrone M. Turning.

ASSISTANT PROFESSORS: Gary A. Bays, Karin J. Billions, Janet A. Michello, Jane F. Roberts, Patsy A. Vehar, Timothy R. Vierheller.

INSTRUCTORS: George P. Hruby, Richard M. Maringer, Joseph M. Wilson.

University Libraries

ACTING DEAN: Assistant Professor Roger W. Durbin.

PROFESSOR: Ruth E. Clinefelter, George V. Hodowanec.

ASSOCIATE PROFESSORS: David R. Brink, Jack E. Hibbs, Jr., Margaret B. Leuptow, John V. Miller, Jr.

ASSISTANT PROFESSORS: Stephen Aby, Virginia Berringer, Diana A. Chlebek, Julie A. Gammon, Thomas E. Klingler, Norma J. Pearson, Nancy L. Stokes.

INSTRUCTORS: Ann D. Bolek, Judith L. Fitzgerald, Robert J. Rittenhouse.

Reserve Officers' Training Corps

July 1991

Army

RONALD R. GOODELL, *Professor of Military Science* (July 1988) B.S., Eastern Michigan University; M.S., Youngstown State University; Graduate Armed Forces Staff College; Lieutenant Colonel, Field Artillery.

FREDDY A. DOWDEN, *Assistant Professor of Military Science* (March 1988) B.A., M.A., McNeese State University, 1986; Major (USAR) Infantry.

GARY R. GARRETT, *Assistant Professor of Military Science* (August 1986) B.A., Saint Martin's College, 1986; Captain, Signal Corps.

JAMES D. MUSENGO, *Assistant Professor of Military Science* (January 1990) B.S., John Carroll University, 1982; Captain, Armor.

RANDAL L. PARKINSON, *Assistant Professor of Military Science* (October 1988) B.S., Western Illinois University; Captain, Infantry.

JAMES M. PLAZO, *Assistant Professor of Military Science* (November 1988) B.A., The University of Akron; Major, ANG, Field Artillery.

TERRY L. SCAIFE, *Principal Drill Inspector* (July 1988) Sergeant First Class.

LARRY M. SLUDER, JR., *Chief Instructor* (February 1990) Master Sergeant.

MICHAEL M. STREAKS, *Supply Sergeant* (February 1991) Sergeant.

Air Force

JAMES D. MAST, *Professor of Aerospace Studies* (1990) B.S., Kansas State Teachers College; M.A., University of Arkansas, 1985; Lt. Col. USAF, Navigator.

DONALD L. ALLEN, *Assistant Professor of Aerospace Studies* (1989) B.A., Park College; M.A., Webster University, 1982; Captain, USAF, Airborne Weapons Controller.

WALTER F. KELLY, *Assistant Professor of Aerospace Studies* (1987) B.S., Michigan State University; M.S., Central Missouri State University, 1985; Captain, USAF, Missile Operations.

SCOTT A. MARECHES, *NCOIC, POC Records* (1989) Technical Sergeant, USAF, Personnel.

THOMAS P. MILLER, *Air Force ROTC Admissions Counselor* (1988) B.A., Rutgers University; M.A., Temple University, 1979; Captain, USAF, Logician.

CHRISTOPHER J. KOLLER, *NCOIC, GMC Records* (October 1990) Sergeant, USAF, Administration.

Institute of Polymer Science

DARRELL H. RENEKER, *Director of the Institute of Polymer Science; Professor of Polymer Science* (1989) B.Sc., Iowa State University; M.Sc., Ph.D., University of Chicago, 1959.

WILLIAM J. BRITAIN, *Assistant Professor of Polymer Science* (August 1990) B.S., University of Northern Colorado; Ph.D., California Institute of Technology, 1982.

STEPHEN Z. D. CHENG, *Associate Professor of Polymer Science* (1987) B.S. East China Normal University; M.S., East China Institute of Science and Technology; Ph.D., Rensselaer Polytechnic Institute, 1985.

RONALD K. EBY, *Robert C. Musson Professor of Polymer Science* (July 1990) Sc.B., Lafayette College; M.S., Ph.D., Brown University, 1958.

MARK D. FOSTER, *Assistant Professor of Polymer Science* (November 1990) B.S., Washington University; Ph.D., University of Minnesota at Minneapolis, 1987.

JOHN E. FREDERICK, *Associate Professor of Polymer Science, Associate Professor of Chemistry* (1966) B.S.Ch., Glenville State College; Ph.D., University of Wisconsin, 1964.

VASSILIOS GALITSATOS, *Assistant Professor of Polymer Science* (October 1990) B.S., The University of Thessaloniki; M.S., Ph.D., University of Cincinnati, 1986.

PURUSHOTTAM DAS GUJRATI, *Professor of Physics; Professor of Polymer Science* (1983) B.Sc., Banaras Hindu University, India; M.Sc., Indian Institute of Technology, India; M.A., M.Phil., Ph.D., Columbia University, 1978.

GARY R. HAMED, *Professor of Polymer Science; Professor of Biomedical Engineering* (1980) B.S.C.E., M.S.C.E., Cornell University; Ph.D., The University of Akron, 1978.

FRANK W. HARRIS, *Professor of Polymer Science; Professor of Biomedical Engineering's Research Associate, Institute of Polymer Science* (1983) B.S., University of Missouri; M.S., Ph.D., University of Iowa, 1968.

H. JAMES HARWOOD, *Professor of Polymer Science; Professor of Chemistry* (October 1959) B.S., The University of Akron, Ph.D., Yale University, 1956.

JOSEPH P. KENNEDY, *Distinguished Professor of Polymer Science; Distinguished Professor of Chemistry* (1970) B.Sc., University of Budapest; M.B.A., General Business, Rutgers University; Ph.D., University of Vienna, 1954.

WAYNE L. MATTICE, *Alex Schulman Professor of Polymer Science* (July 1986) B.A., Grinnell College; Ph.D., Duke University, 1968.

DONALD MCINTYRE, *Professor of Polymer Science; Professor of Chemistry* (1966) A.B., Lafayette College; Ph.D., Cornell University, 1954.

EBERHARD A. MEINECKE, *Professor of Polymer Science; Professor of Mechanical Engineering; Professor of Biomedical Engineering* (October 1963) D. Eng., Institute of Technology (Braunschweig, Germany), 1960.

RODERIC P. QUIRK, *Professor of Polymer Science* (October 1983) B.S., Rensselaer Polytechnic Institute; M.S., Ph.D., University of Illinois, 1967.

EVERETT SANTEE, JR., *Manager of the NMR Center, Research Associate, Institute of Polymer Science* (1966) B.S., West Virginia State College, 1962.

JANETTE L. SLOBODA, *Assistant to the Director of the Institute of Polymer Science* (1990) B.F.A., Pratt Institute; M.A., New York University, 1989.

ERNST D. VON MEERWALL, *Distinguished Professor of Physics; Faculty Research Associate, Institute of Polymer Science* (1971) B.S., M.S., Northern Illinois University; Ph.D., Northwestern University, 1970.

MARCIA R. WEIDKNECHT, *Instructor in Polymer Science* (August 1989) B.S., University of New Hampshire, 1971.

Institute for Biomedical Engineering

DANIEL B. SHEFFER, *Director of Institute for Biomedical Engineering Research; Associate Professor of Biology; Associate Professor of Biomedical Engineering; Director, Biostereometrics Laboratory* (July 1980) B.S., M.Ed., Northwestern State College; Ph.D., Texas A&M University, 1976.

KAREN M. MUDRY, *Associate Professor of Electrical Engineering; Associate Professor of Biomedical Engineering* (1979) B.E.E., Villanova University; M.S., Johns Hopkins University; Ph.D., Cornell University, 1978.

RAY S. FATEMI, *Research Assistant Professor of Biomedical Engineering* (June 1990) B.S., M.S., Ph.D., University of Iowa, 1990.

GLEN O. NUJS, *Assistant Professor of Biomedical Engineering* (November 1986) B.S., M.S., Ph.D., University of Iowa, 1985.

NARENDER P. REDDY, *Professor of Biomedical Engineering* (March 1981) B.E., Osmania University; M.S., University of Mississippi; Ph.D., Texas A&M University, 1974.

STANLEY E. RITTEGERS, *Associate Professor of Biomedical Engineering* (1987) B.S., State University of New York at Buffalo; M.S., Ph.D., The Ohio State University, 1978.

BRUCE C. TAYLOR, *Associate Professor of Biomedical Engineering* (1988) B.A., Hiram College; M.A., Ph.D., Kent State University, 1971.

MARY C. VERSTRAETE, *Assistant Professor of Biomedical Engineering* (1988) B.S., M.S., Ph.D., Michigan State University, 1988.

Center for Polymer Engineering

- JAMES L. WHITE**, *Director of the Center for Polymer Engineering; Professor of Polymer Engineering* (July 1983) B.S.Ch.E., Polytechnic Institute of Brooklyn; M.S.Ch.E., Ph.D., University of Delaware, 1965
- KYONSUKU M. CAKMAK**, *Assistant Professor, Polymer Engineering* (August 1983) B.Eng., M.Eng., Kyoto Institute of Technology; Ph.D., University of Tennessee, 1984.
- MUKERREM CAKMAK**, *Associate Professor of Polymer Engineering* (August 1983) B.S., Technical University of Istanbul; M.S., Ph.D., University of Tennessee, 1984.
- ALAN N. GENT**, *Harold A. Morton Professor of Polymer Engineering and Polymer Physics* (April 1961) B.Sc. (general) B.Sc. (special physics), Ph.D., University of London, 1955.
- AVRAAM I. ISAYEV**, *Professor of Polymer Engineering* (1983) M.Sc., Azerbaijan Institute of Oil and Chemistry; M.Sc., Moscow Institute of Electronic Machine Building; Ph.D., USSR Academy of Sciences, 1970.
- THEIN KYU**, *Professor of Polymer Engineering* (1983) B.Eng., Kyoto Institute of Technology; M.Eng., D.Eng., Kyoto University, 1980.
- ARKADII I. LEONOV**, *Professor of Polymer Engineering* (1988) B.S., Moscow Institute of Chemical Engineering; M.S., Moscow State University; Ph.D., USSR Academy of Sciences; Ph.D., Karpov Physico-Chemical Research Institute, Moscow USSR, 1969
- NOBUYUKI NAKAJIMA**, *Professor of Polymer Engineering* (1984) B.S., Tokyo University; M.S., Polytechnic Institute; Ph.D., Case Institute of Technology, 1958.

Presidents

Buchtel College

- S. H. McCOLLESTER***, 1872-1878, D.D., Litt. D.
- E. L. REXFORD***, 1878-1880, D.D.
- ORELLO CONE***, 1880-1896, D.D.
- CHARLES M. KNIGHT***, 1896-1897, D.Sc. (ad interim)
- IRA A. PRIEST***, 1897-1901, D.D.
- A. B. CHURCH***, 1901-1912, D.D., LL.D.
- PARKE R. KOLBE***, 1913, Ph.D., LL.D.

The University of Akron

- PARKE R. KOLBE***, 1913-1925, Ph.D., LL.D.
- GEORGE F. ZOOK***, 1925-1933, Ph.D., LL.D.
- HEZZLETON E. SIMMONS***, 1933-1951, M.S., D.Sc. LL.D.
- NORMAN P. AUBURN**, 1951-1971, B.A., D.Sc., Litt.D., L.H.D., LL.D., D.C.L.
- D. J. GUZZETTA**, 1971-1984, Ed.D., LL.D., D.S.Sc., L.H.D.
- WILLIAM V. MUSE**, 1984, B.S., M.B.A., Ph.D.

Deans of the Colleges of The University of Akron

Buchtel College of Arts and Sciences

- ALBERT I. SPANTON***, 1913-1938, M.A., Litt.D.
- CHARLES BULGER***, 1938-1948, Ph.D., Litt.D.
- ERNEST H. CHERRINGTON, JR.**, 1948-1960, Ph.D.
- THOMAS SUMNER***, 1960-1962, Ph.D.
- GEORGE W. KNEPPER**, 1962-1967, Ph.D.
- DON A. KEISTER**, 1967-1969, Ph.D.
- JOHN BACHMANN***, 1969-1970, Ph.D. (acting)
- ROBERT A. OETJEN**, 1970-1977, Ph.D.
- CLAIBOURNE E. GRIFFIN**, 1977, Ph.D.

College of Engineering

- FREDERIC E. AYER***, 1914-1946, C.E., D.Eng.
- R. D. LANDON**, 1946-1963, C.E., M.S.
- W. M. PETRY***, 1963-1964, M.S.M.E. (acting)
- MICHAEL J. RZASA***, 1964-1970, Ph.D.
- COLEMAN J. MAJOR**, 1970-1979, Ph.D.
- JOSEPH EDMINISTER**, 1980-1981, J.D. (acting)
- LOUIS A. HILL, JR.**, 1981-1988, Ph.D.
- GLENN A. ATWOOD**, 1988-1989, Ph.D. (acting)
- NICHOLAS D. SYLVESTER**, 1989, Ph.D.

College of Education

- W. J. BANKES***, 1921-1931, M.A.
- ALBERT I. SPANTON***, 1931-1933, M.A., Litt.D. (acting)
- HOWARD R. EVANS***, 1933-1942, Ph.D.
- HJALMER W. DISTAD***, 1942-1944, Ph.D. (acting)
- HOWARD R. EVANS***, 1944-1958, Ph.D.
- D. J. GUZZETTA**, 1958-1959, Ed.D. LL.D., D.S.Sc., L.H.D. (acting)
- CHESTER T. McNERNEY**, 1959-1966, Ph.D., LL.D.
- H. KENNETH BARKER**, 1966-1985, Ph.D.
- JOHN S. WATT**, 1985-1986, Ph.D. (acting)
- CONSTANCE COOPER**, 1986-1988, Ed.D.
- JOHN S. WATT**, 1988-1989, Ph.D. (acting)
- WILLIAM E. KLINGELE**, 1989, Ed.D.

College of Business Administration

- WARREN W. LEIGH***, 1953-1962, Ph.D.
- RICHARD C. REIDENBACH**, 1962-1967, Ph.D.
- ARTHUR K. BRINTALL**, 1967-1968, Ph.D. (acting)
- WILBUR EARLE BENSON***, 1968-1970, Ph.D.
- JAMES W. DUNLAP**, 1970-1989, Ph.D.
- RUSSELL J. PETERSEN**, 1989, Ph.D.

School of Law

- STANLEY A. SAMAD**, 1959-1979, J.S.D.
- ALBERT S. RAKAS**, 1979-1981, J.D. (interim)
- DONALD M. JENKINS**, 1981-1987, LL.M.
- ISAAC C. HUNT, JR.**, 1987, LL.B.

Graduate School

- CHARLES BULGER***, 1933-1951, Ph.D., Litt.D. (Dean of Graduate Work)
- ERNEST H. CHERRINGTON, JR.**, 1955-1960, Ph.D. (Director of Graduate Studies)
- ERNEST H. CHERRINGTON, JR.**, 1960-1967, Ph.D. (Dean of the Graduate Division)
- ARTHUR K. BRINTALL**, 1967-1968, Ph.D. (Dean of Graduate Studies and Research)
- EDWIN L. LIVELY**, 1968-1974, Ph.D. (Dean of Graduate Studies and Research)
- CLAIBOURNE E. GRIFFIN**, 1974-1977, Ph.D. (Dean of Graduate Studies and Research)
- JOSEPH M. WALTON**, 1977-1978, Ph.D. (Associate Dean of Graduate Studies and Research)
- ALAN N. GENT**, 1978-1986, Ph.D. (Dean of Graduate Studies and Research)
- JOSEPH M. WALTON**, 1986-1989, Ph.D. (Acting Dean of Graduate Studies and Research)
- PATRICIA L. CARRELL**, 1989, Ph.D. (Dean of the Graduate School)

University College (formerly General College)

- D. J. GUZZETTA**, 1959-1962, Ed.D., LL.D., D.S.Sc., L.H.D.
- THOMAS SUMNER***, 1962-1977, Ph.D.
- PAUL S. WINGARD**, 1977-1978, Ph.D. (acting)
- MARION A. RUEBEL**, 1978-1989, Ph.D.
- NANCY K. GRANT**, 1989-1990, Ph.D. (acting).
- THOMAS J. VUKOVICH**, 1990, Ph.D. (acting)

Evening College

- L. L. HOLMES**, 1932-1934, M.A. (director)
- LESLIE P. HARDY**, 1934-1953, M.S.Ed., L.H.D. (director)
- E. D. DURYEY**, 1953-1956, Ed.D. (dean)
- D. J. GUZZETTA**, 1956-1959, Ed.D., LL.D., D.S.Sc., L.H.D. (dean)
- WILLIAM A. ROGERS**, 1959-1967, Ed.D. (dean)
- CHARLES V. BLAIR**, 1967-1970, M.A. (dean)
- JOHN G. HEDRICK**, 1970-1974, M.A. (dean)
- CAESAR A. CARRINO**, 1974-1986, Ph.D. (dean)

Community and Technical College

- W. M. PETRY***, 1964-1974, M.S.M.E.
- ROBERT C. WEYRICK**, 1974-1985, M.S.
- FREDERICK J. STURM**, 1985-1987, Ed.D. (acting)
- JAMES P. LONG**, 1987-1989, Ph.D.
- FREDERICK J. STURM**, 1990, Ed.D.

College of Fine and Applied Arts

- RAY H. SANDEFUR***, 1967-1978, Ph.D.
- GERARD L. KNIETER**, 1978-1986, Ph.D.
- KELVIE C. COMER**, 1986-1987, Ed.D. (acting)
- WALLACE T. WILLIAMS***, 1987-1991, Ph.D.
- DONALD E. HALL**, 1991, Ph.D. (acting)

*Deceased.

*Deceased.

College of Nursing

ESTELLE B. NAES, 1967-1975, Ph.D.
LILLIAN J. De YOUNG, 1975-1988, Ph.D.
ELIZABETH J. MARTIN, 1988-, Ph.D.

Wayne College

MARVIN E. PHILLIPS, 1972-1974, M.A. (acting director)
JOHN G. HEDRICK, 1974-1974, M.A. (director)
JOHN G. HEDRICK, 1974-1979, M.A. (dean)
ROBERT L. McELWEE, 1979-1980, M.A. (acting dean)
TYRONE M. TURNING, 1980-, Ed.D. (dean)

College of Polymer Science and Polymer Engineering

FRANK N. KELLEY, 1988-, Ph.D. (dean)

Current Members of College and School Advancement/Advisory Councils

May 1991**BUCHTEL COLLEGE OF ARTS AND SCIENCES
(Advancement Council)**

Mr. Arnold Bellowe, Mr. Roy Browne, Mr. Thomas H. DuFore, Dr. James D. D'Ianni, Mr. Emanuel Gurin, Miss Lillian Knight, Miss Lovina Knight, Mrs. Dorothy Garrett Martin, Paul G. McDermott, Mrs. Margo Shields, Dr. Gary B. Williams, Mrs. Pamela S. Williams.

**COLLEGE OF ENGINEERING
(Advancement/Advisory Councils)**

Executive & Awards Committee: Mr. Dorsey Fears, Jr., Mr. Stephen Zook, Dr. David C. Bonner, Mr. William A. Brainard, Dr. Albert F. Gilbert, Mr. Robert A. Handelman, Dr. George R. Hill, Mr. John David Jones, Mr. Robert F. Meyerson, Mr. Barry M. Miller, Mr. Robert Miller, Mr. F. Vincent Prus, Mr. Bruce Rogers, Mr. Jim Ruhlin, Congressman Thomas C. Sawyer, Mr. Charles West, Mr. G.B. Williams, Dr. Nicholas D. Sylvester. Biomedical Engineering Committee: Mr. Robert Keynton, Dr. Daniel K. Church, Dr. Ivan A. Gradisar, Jr., Mr. C. William Loughry, Mr. Michael B. Maron, Ms. Beth O'Brien, Dr. Anthony M. Passalacqua, Dr. David Rohler, Dr. Buel S. Smith, Dr. Norman Taslitz, Mr. Robert E. Wessman, Dr. Daniel B. Sheffer. Chemical Engineering Committee: Mr. Bryan Lanterman, Dr. David C. Bonner, Mr. J.B. Cropley, Dr. Conrad J. Kulik, Dr. Joseph M. Lambert, Jr., Mr. Henry H. Leehe, Dr. Joseph Miller, Mr. James G. Speight, Mr. Eugene Y. Weissman, Mr. Paul S. Woon, Dr. Sunggyu Lee. Civil Engineering Committee: Mr. David Kohlmeier, Mr. William Bandy, Mr. William Bunkley, Mr. David Chapman, Dr. Jon Gerhardt, Mr. James Hammontree, Mr. C. David Haugh, Mr. Ralph Hendrick, Mr. Richard Hipple, Dr. William Brian Ar buckle. Construction Technology Committee: Mr. Stephen Seal, Mr. Bruce Gilbert, Mr. Joseph Girard, Mr. J. Robert Kessler, Mr. Robert Kraus, Mr. Ken Payne, Mrs. Tari Rivera, Mr. Charles Ruhlin, Mr. Gerald Stitz, Mr. William Tokarcik, Mr. Paul Simpson. Electrical Engineering Committee: Mr. Jeffrey Spadaro, Mr. John Bowyer, Mr. William Bradley, Mr. Yung-Fu Chang, Mr. Walter C. Merrill, Mr. Nils E. Nilsson, Dr. Paul Raptis, Dr. C.S. Chen. Mechanical Engineering Committee: Mr. Matt Pruszynski, Mr. John Dalton, Mr. Thomas Labus, Dr. Robert Siegel, Mr. Surendra Singh, Mr. Gary Star, Dr. Joseph Walter, Mr. Gordon D. Woolbert, Dr. Benjamin Chung. Cooperative Education Committee: Mr. Kirk Beshore, Mr. William J. Bush, Mr. Raymond Crawford, Mr. Gary Mattison, Mr. Christopher J. Maurer, Mr. Louis Perry, Mr. Richard S. Rice. Research & Graduate Studies Committee: Mr. Mark Verryi, Dr. Thomas Dudek, Mr. Fred Kovac, Mr. H.F. Lanier, Mr. Myronb Trenne, Mr. Lee Vandenberg, Dr. Max S. Willis. Teaching Effectiveness Committee: Mr. Allen Jacobsen, Dr. Frank Jeglic, Mr. Larry King, Mr. Richard Nichols, Mr. Rick Porter, Dr. S. Graham Kelly.

**COLLEGE OF EDUCATION
(Advancement Council)**

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**COLLEGE OF EDUCATION
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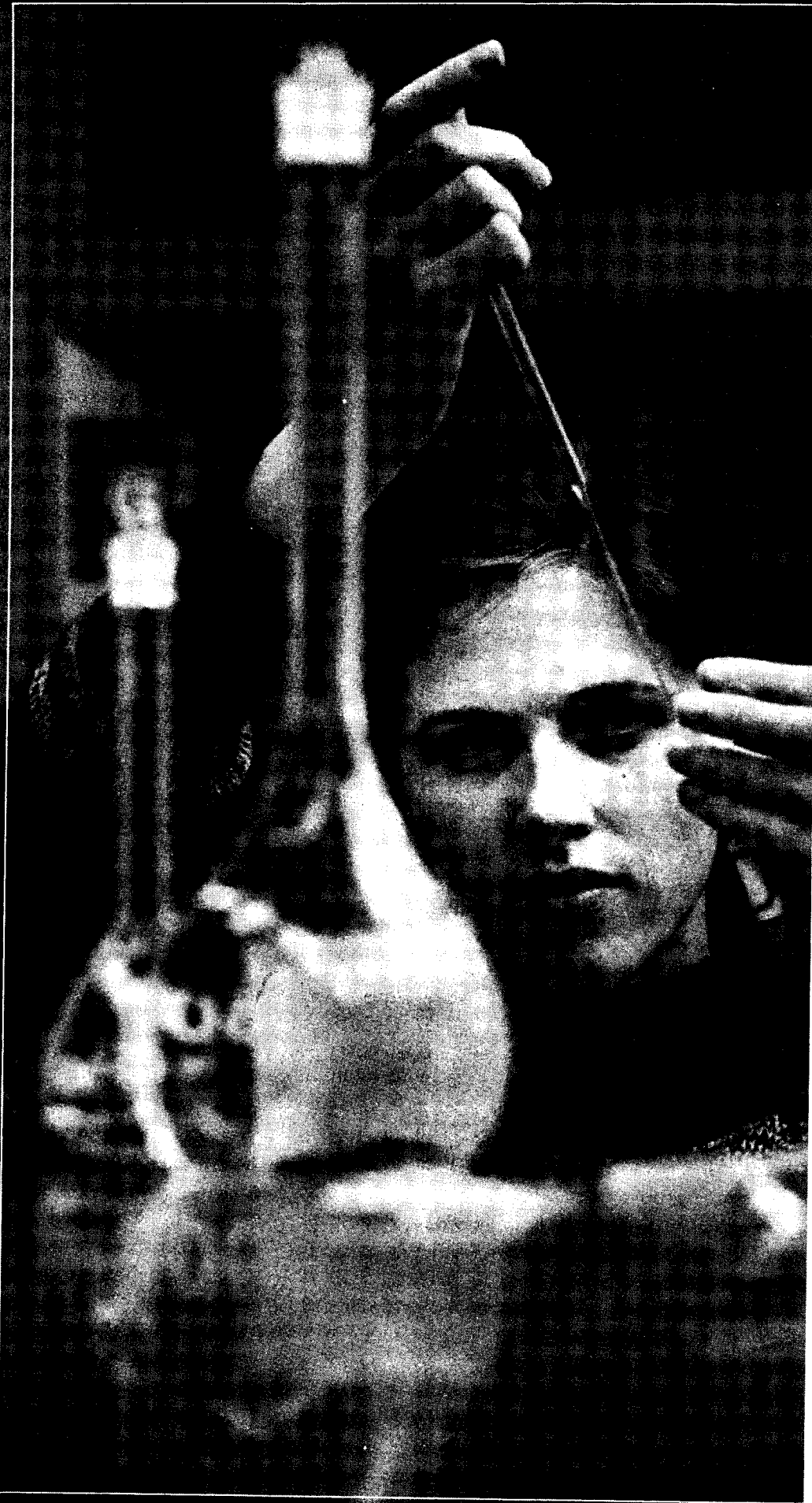
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THE UNIVERSITY OF AKRON IS AN
 EQUAL EDUCATION AND EMPLOYMENT INSTITUTION

operating under non-discrimination provisions of Titles VI, VII, IX and Executive Order 11246,
 Vocational Rehabilitation Act Section 504, and Vietnam Era Veterans' Readjustment Act
 as related to admissions, treatment of students, and employment practices.

It is the policy of this institution that there shall be no discrimination against any individual at The University
 of Akron because of age, color, creed, handicap, national origin, race, religion, sex or sexual orientation.
 The University of Akron will not tolerate sexual harassment of any form in its programs and activities.

This nondiscrimination policy applies to all students, faculty, staff, employees and applicants.

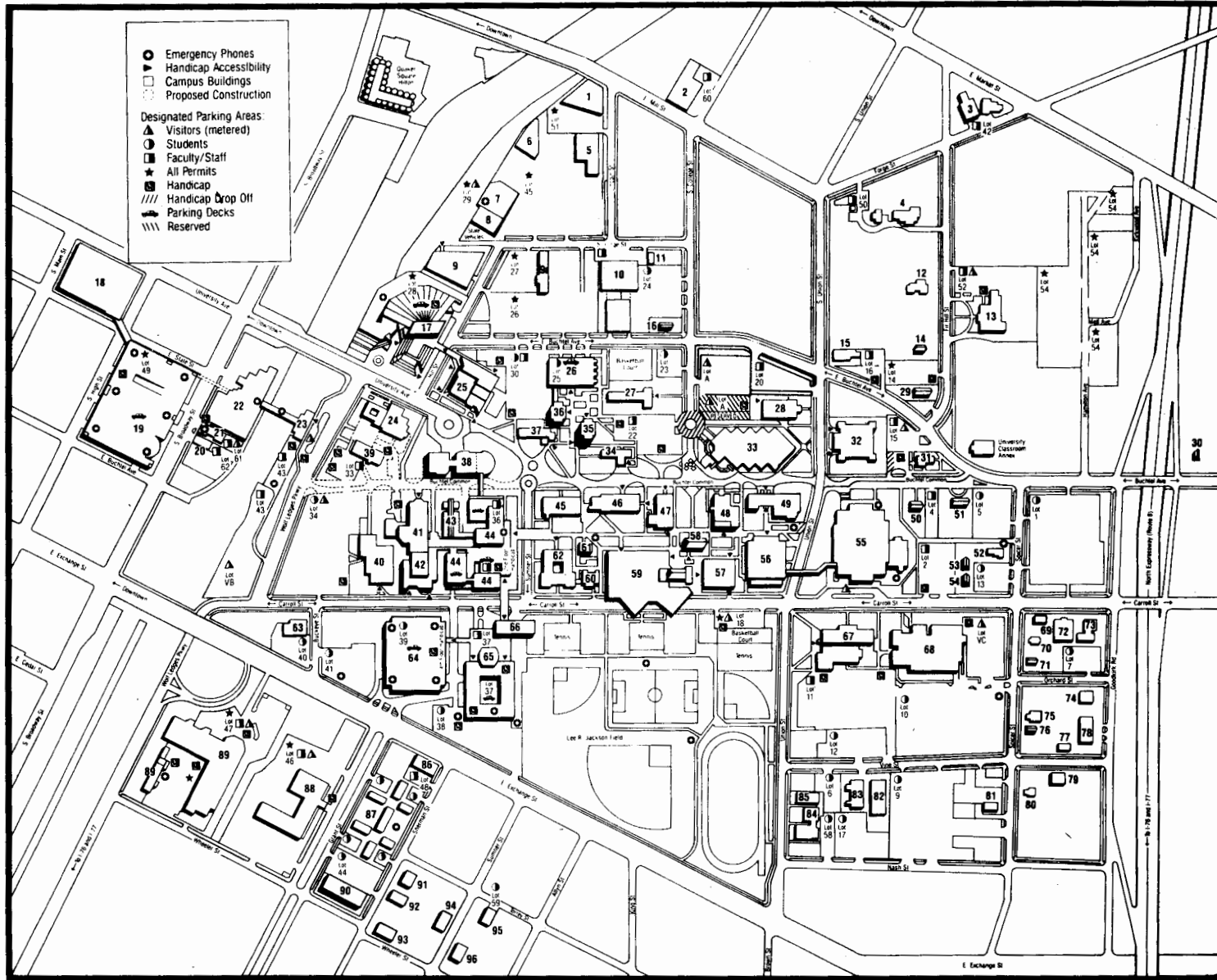
Complaint of possible discrimination should be referred to
 Affirmative Action and Equal Employment Opportunity Officer
 227 Broadway Building
 Rooms 203, 204, 206
 (216) 972-7300

Information on Title IX (sex discrimination) may be obtained from
 Martha Booth, Title IX Coordinator
 Office of Admissions
 (216) 972-6416

UNIVERSITY ZIP+4 CODES

Academic Advising Services	6206	Employment Services	0601	Physical Education and Health Education	5103
Accountancy, School of	4802	Engineering and Science Technology	6104	Physical Facilities	0401
Accounts Payable	6205	Engineering Dean's Office	3901	Physics	4001
Accounts Receivable	6205	English	1906	Political Science	1904
Admissions	2001	English Language Institute	1909	Polymer Engineering, Dept. of and Institute of	0301
Adult Resource Center	3102	Enrollment Manager	4713	Polymer Science, Dept. of and Institute of	3909
Advanced Technical Application Center	0301	Environmental and Occupational Health and Safety	0607	Polymer Science and Polymer Engineering Dean's Office	3909
Aerospace Studies	6102	Environmental Studies	4102	President Emeritus (Auburn)	3002
Afro-American Studies	6201	Executive Assistant to the President	4706	President Emeritus (Guzzetta)	4103
Akron Magazine, Akron Update	0604	Facilities Planning and Construction	0405	President's Office	4702
Allied Health Technology	3702	Family Studies, Center for	6103	Printing Services	0702
Alumni Relations	2602	Finance	4803	Programs Division, CEPSCO	3103
Amateur Radio Club	4204	Fine and Applied Arts Dean's Office	1001	Promotional Services, CEPSCO	3111
American Chemical Society	3801	Fire and Hazardous Materials, Training Center for	4305	Psychology	4301
Art	7801	First National Bank Branch	4604	Public Relations	0604
Arts and Sciences Dean's Office	1901	Food Services, Dept. of	4607	Public Service Technology	4304
Assistant to the President, Minority Affairs	4711	Fraternity and Sorority Life	4609	Purchasing, Dept. of	9001
Associate Provost and Dean, CEPSCO	4104	Futures Studies and Research	7906	Radio Station WZIP-FM	1004
Associate Provost and Dean, Student Services	4701	GSC Calendar and Conference Services	4601	Registrar	6208
Associate Vice President, Research and Graduate Studies	2102	Gallucci Hall	7901	Research Services and Sponsored Programs	2102
Associated Student Government	4606	Gardner Student Center	4601	Secondary Education	4202
Athletics	5201	General Counsel, Office of	4706	Senior Vice President and Provost	4703
Barnes & Noble Bookstore	4605	Geography	5005	Social Work	8001
Benefits Administration	0602	Geology	4101	Sociology	1905
Biology	3908	Graduate School Dean's Office	2101	Special Projects	4714
Biomedical Engineering	0302	Handicapped Student Services	6213	Sports Information/Marketing	5202
Black Cultural Center	1801	Health Services	1101	Student Development	4608
Board of Trustees, Secretary	4705	History	1902	Student Financial Aid and Employment	6211
<i>Die Buchtelite</i>	4602	Home Economics and Family Ecology	6103	Supervising Teachers	4203
Budget Director	6202	Honors Program, University	1803	Survey Research Center	1911
Business Administration Dean's Office	4901	Hospitality and Dining Services	4607	<i>Tel-Buch</i>	4603
Business Services, CEPSCO	3109	Housing Office	1401	Telecommunications	3501
Business Technology	6002	Howe House	2401	Theatre Arts	1005
C&T College Dean's Office	6001	Information Services	3501	UL Acquisitions	1708
Career Planning and Placement	4306	Information Systems	4712	UL Archival Services	1702
Cashier's Office	6209	Internal Communications	0605	UL Audio-Visual Services	1704
Central Stores	0703	International Programs	3101	UL Cataloging	1712
Chemical Engineering	3906	JAR	5204	UL Circulation	1706
Chemistry	3601	Labor and Employee Relations	4715	UL Collection Management	1707
Civil Engineering	3905	Law Library	2902	UL Dean's Office	1701
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Communicative Disorders	3001	Life-Span Development and Gerontology, Institute for	4307	UL Rubber Division	3907
Computer Center	3501	Loans and Receivables	6215	UL Science and Technology Dept.	3907
Construction Technology	0801	Mailing Services	0701	ULLR University Media Production	4903
Controller	6205	Management	4801	University Auditor	6203
Coop Coordinator (Engineering)	3902	Marketing	4804	The University Club	2601
Cooperative Education	6212	Mathematical Sciences	4002	University College Dean's Office	6201
Counseling and Special Education	5007	Mechanical Engineering	3903	University Communications	0604
Counseling and Testing Center	4303	Military Science	6101	University Media Production	4903
Crystal Room	7902	Modern Languages	1907	University Police	0402
Distodial Services	0401	Music	1002	Upward Bound	7908
Dance	2502	NEUCOM	8902	Urban Education, Center for	4201
Dance Institute	2502	Noncredit Courses, CEPSCO	3105	Urban Studies, Center for	7903
Development	2603	Noncredit Workshops	3103	Urban Studies, Dept. of	7904
Developmental Programs	5004	Nursery Center, University	1802	Vice President, Administrative Services	4708
EO Office	4709	Nursing Dean's Office	3701	Vice President, Business and Finance	4707
J. Thomas Hall Ticket Office	0501	Ocasek Natatorium	6301	Vice President, Human Resources and Information Services	4715
Economics	1908	Ohio Ballet	2501	Vice President, Institutional Advancement	4710
Education Dean's Office	4201	Orientation and Retention	4716	Wayne College	8901
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