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Graduate Application
Application for Assistantship
The University of Akron Graduate Bulletin

Vol. XXXVI

POSTMASTER

Send address changes to The University of Akron Graduate Bulletin, Graduate School, The University of Akron, Akron, OH 44325-2101

The Graduate Bulletin is published once each year by The University of Akron Graduate School

The Polsky Building, 4673, Akron, Ohio 44325-2101

Doli G. Markovich, Coordinator of the Graduate School and editor of the Graduate Bulletin

The University of Akron Graduate Bulletin

USPS 690-496

August 1997

Calendar 1997-1998

Fall Semester 1997

Day and Evening Classes Begin

Mon., Aug. 25

Labor Day (Day and Evening)

Mon., Sept. 1

Veterans Day (classes held; staff holiday)

Tue., Nov. 11

**Thanksgiving Break

Thu.-Sat., Nov. 27-29

Classes Resume

Mon., Dec. 1

Final Instructional Day

Sat., Dec. 5

Final Examination Period

Mon.-Sat., Dec. 8-13

Commencement

Sat., Dec. 13

Spring Intercession

Fri.-Sat., Jan. 2-10, 1998

Spring Semester 1998

Day and Evening Classes Begin

Mon., Jan. 12

Martin Luther King Day

Mon., Jan. 19

 Presidents' Day

Tue., Feb. 17

Spring Break

Mon.-Sat., Mar. 16-21

***May Day

Fri., May 1

Final Instructional Day

Sat., May 2

Final Examination Period

Mon.-Sat., May 4-9

Commencement

Sat., May 9

Summer Intercession

Mon.-Fri., May 11-June 5

Commencement for Law School

Sun., May 17

Summer Session I 1998

First 5- and 8-Week Sessions Begin

Mon., June 15

Independence Day

Fri., July 3

First 5-Week Session Ends

Sat., July 18

Summer Session II 1998

Second 5-Week Session Begins

Mon., July 20

8-Week Session Ends

Sat., Aug. 8

Second 5-Week Session Ends

Sat., Aug. 22

Summer Commencement

Fall Semester 1998

Day and Evening Classes Begin

Mon., Aug. 31

*Classes canceled (day and evening)

**Classes canceled from Wednesday at 5 p.m. through Monday at 6:45 a.m.

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

The Graduate Bulletin is a supplement to The University of Akron Undergraduate Bulletin. The Undergraduate Bulletin contains information on undergraduate degree programs, non-degree continuing education programs, and additional information on the policies of The University of Akron.

For a copy of the Undergraduate Bulletin contact the Office of Admissions, The University of Akron, Akron, OH 44325-2001, (330) 972-7000, or toll-free, (800) 625-4884.

Inquiries

Address inquiries concerning:

Graduate study to the Graduate School, The University of Akron, Akron, OH 44325-2101, (330) 972-7000.

Undergraduate admissions information, campus tours, and housing, to the Office of Admissions, The University of Akron, Akron, OH 44325-2101, (330) 972-7000 or toll-free, (800) 972-7080.


Athletics to the Athletic Director, The University of Akron, Akron, OH 44325-5201, (330) 972-7080.

Registration, scheduling, residency requirements, and veteran's affairs to the Office of the Registrar, The University of Akron, Akron, OH 44325-6206, (330) 972-8300.

The University switchboard number is (330) 972-7771.

University Closing Policy

The president, or designee, upon the recommendation of the associate vice president for the Division of Business and Finance, will determine when conditions—such as severe weather or a state of emergency—necessitate closing the entire University or canceling classes at the main campus and/or Wayne College in Orrville.

The associate vice president for administrative services will promptly notify other designated University officials and members of the Department of University Communications who will contact area media. University colleges/departments/schools are encouraged to establish a method for communicating the closing decision to departmental personnel. Closing information will be announced as early and as simply as possible to avoid confusion.

Cancellation of classes and closure announcements will be made as early as possible in the day and will clearly state the affected campuses. Call 972-SNOW or 972-6236 (TDD) for updated information.

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, programs may be modified due to limited resources or facilities, unavailability of faculty, insufficient enrollment, or other reasons as the University deems necessary.
Important Phone Numbers

University Area Code (330)

All phone numbers are subject to change without notice. For numbers not listed, call the University Switchboard (330) 972-7111.

Graduate School
Admission, Graduate School
Miss Brenda Henry .................................................. 972-7665
Associate Dean, Graduate School
Dr. Lathardus Coggins .................................................. 972-6783
Coordinator, Graduate School
Mrs. Dolli Markovich .................................................. 972-6737
Dean, Graduate School
Dr. Charles Dye .......................................................... 972-7664
Information, Graduate School
Miss Heather Blake ...................................................... 972-7683
Graduate Degree Completion
Mrs. Virginia Donnelly ................................................... 972-5169
Graduate Minority Student Council
President ................................................................. 972-5387
Graduate Student Financial Assistance/Secretary to the Dean
Mrs. Karen Caldwell .................................................... 972-6310
Graduate Student Government
President ................................................................. 972-5387

Colleges
Buchtel College of Arts and Sciences .................................. 972-7880
Community and Technical College .................................... 972-7220
College of Business Administration .................................. 972-7040
College of Education .................................................... 972-7681
College of Engineering ................................................... 972-7816
College of Fine and Applied Arts ..................................... 972-7564
College of Nursing ........................................................ 972-7551
College of Polymer Science and Polymer Engineering ............ 972-7500
The University of Akron—Wayne College ............................ 1-800-221-8308
NEOUCOM (Northeast Ohio Univ. College of Medicine) ........... 325-2511
University College ....................................................... 972-7066

Other Offices
Black Cultural Center ...................................................... 972-7030
Buchtelite, The (student newspaper) .................................. 972-7457
Center for Child Development ........................................ 374-8761
Communication Centers (photocopying)
Bierce Library .............................................................. 972-6278
Gardner Student Center .................................................. 972-7670
Cooperative Education Programs ....................................... 972-6722
Counseling, Testing, And Career Center
Counseling ................................................................. 972-7082
Testing ....................................................................... 972-7084
Career Services ........................................................... 972-6722
Coventry North, The University of Akron Center at ................ 972-6266
English Language Institute ............................................. 972-7544
Financial Aid, Office of Student ....................................... 972-7032
Scholarships .............................................................. 972-7032
Work Study ............................................................... 972-7032
Gardner Student Center .................................................. 972-7866
Health Services, Student ................................................ 972-7808

International Programs .................................................. 972-6349
Immigration ............................................................... 972-6349
International Admission ................................................. 972-6349
Minority Affairs, Office of ............................................ 972-7608
Minority Retention ....................................................... 972-7314
Minority Student Support Services ................................... 972-6769

Libraries, University
Bierce Library .............................................................. 972-7234
Law Library ............................................................... 972-7330
Science and Technology Library ....................................... 972-7195
University Archives ..................................................... 972-7670
Parking Services .......................................................... 972-7213
Peer Counseling Program ................................................ 972-6288
Placement Services
Cooperative Education .................................................... 972-6722
Placement Services ........................................................ 972-7417
Student Employment ..................................................... 972-7405
Student Volunteer Program ............................................. 972-6841
Registrar, Office of the University ..................................... 972-8300
Graduation Office ........................................................ 972-8300
Records and Transcripts ................................................ 972-8300
Residence Life and Housing ............................................. 972-7800
Services for Students with Disabilities ................................. 972-7928
TTY/TDD (hearing impaired) ............................................ 972-5764
Sports Information, Director of ........................................ 972-7488
Student Assistance Center ............................................. 972-5755
C.A.R.E. Program (Chemical Abuse Resource Education) ......... 972-5653

Study Abroad .............................................................. 972-6349
Ticketmaster .............................................................. 972-6684
University Program Board ............................................... 972-7014
Veterans Affairs Coordinator and Counselor .......................... 972-7838
Work Study ............................................................... 972-7032
WZIP-FM Radio Station .................................................. 972-7105

Emergency Phone Numbers
Police/Fire/EMS ........................................................ 911
Police (non-emergency) ................................................... 972-7123
Anonymous Crime Reports .............................................. 972-TIPS (8477)
Campus Patrol .............................................................. 972-7263
University Switchboard .................................................. 972-7111
Closing Information ...................................................... 972-SNOW (7669)

Graduate School
World Wide Web Location
Graduate School Homepage ........................................... http://www.uakron.edu/gradsch/
Graduate School E-mail .................................................. gradschool@uakron.edu
SECTION ONE

Background Information
The University of Akron

Background

HISTORY

The 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-assisted university. It is significant that the efforts, energy, and financial support of an Akron manufacturer of farm equipment, John A. Buchtel, were instrumental in persuading the Ohio Universalist Convention to build its college on a hill overlooking the town that 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 town and gown. 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 268,000, 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.

Changes within the Municipal University's curriculum reflected the strong interrelationship of town and gown. In 1914 a College of Engineering was founded, and other professional schools followed: Education (1921), Business Administration (1926), Law (1959), the College of Arts and Sciences (1964), Fine and Applied Arts (1967), and Nursing (1967).

Considering the institution's location in the heart of a 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 world's first College of Polymer Science and Polymer Engineering (1968), now the largest academic polymer program in the world. In the 1930s and 1940s, with the establishment of Akron in the Guggenheim Archives, and in the 1950s, UA scientists studied the structure and design of zeppelins. 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.

The University's polymer programs have produced some of the world's most able scientists, engineers, and technicians and provided millions of dollars annually to the city's economy. The University has continued and expanded its research programs in the highly competitive fields of materials science and engineering, environmental science, polymer science, and technology, and in the health sciences, including biotechnology, medicine, and health policy.

The University of Akron, a publicly assisted urban institution, strives to develop enlightened members of society. It offers comprehensive programs of instruction for students seeking an associate through doctoral degrees; pursues a vigorous agenda of research in the arts, sciences, and professions; and provides service to the community. The University pursues excellence in undergraduate and graduate education, and distinction in selected areas of graduate instruction, inquiry, and creative activity.

MISSION STATEMENT

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STRATEGIC DIRECTIONS

The following strategic directions provide further definition of the University's mission and service as the bases upon which the colleges, departments, and service units of the University are establishing program objectives now and toward the 21st century.

Strategic Direction I

Attract and retain a higher quality and more diverse student body.

Strategic Direction II

Identify and eliminate barriers to a campus culture of service, and make every effort to improve the campus environment.

Strategic Direction III

Increase student retention and progress toward completion of their academic programs.

Strategic Direction IV

Improve the quality of the undergraduate experience.

Strategic Direction V

Cultivate scholarly and creative activities that are recognized regionally, nationally, and internationally.

Strategic Direction VI

Acquire and efficiently utilize the human, informational, financial, and physical campus resources needed to fulfill the mission of The University of Akron.

A CIVIL CLIMATE FOR LEARNING:

Statement of Expectations

The University of Akron is an educational community of diverse peoples, processes, and programs. While all of us have individual backgrounds, outlooks, values, and styles, we all share certain principles of personal responsibility, mutual respect, and common decency. Our campus culture requires that we maintain and extend those principles; for without them we cannot thrive as a humane and worthwhile university. To keep ourselves aware of these shared principles, this statement articulates some of the expectations and responsibilities of a civil climate for learning on our campus.

Principles of Our Campus Culture

Our campus culture acknowledges the importance of all in our community for the success of all. Today, more than ever before, our campus culture is vital to our success as a university. We value the contributions and we respect the needs of students, faculty, contract professionals, staff, administrators, maintenance and service personnel, and everyone else whose work and dedication enables us to pursue our individual and collective academic goals.

The University of Akron campus, with 76 buildings, is within walking distance of downtown Akron and is located in a metropolitan area of 2.5 million people. The University's presence in Northeast Ohio provides numerous opportunities in recreation, major college, amateur, and professional sports, concerts, cultural events, and commerce, all within easy driving distance and many accessible via public transportation. Located on campus, the Ohio Ballet, Emily Davis Art Gallery, University Orchestra, Opera/Musical Theatre, concerts, recitals, dance programs, Touring Arts Program, University Theatre, Repertory Dance Company, and professional artists performing at E.J. Thomas Performing Arts Hall contribute to the University's rich cultural environment. The University has achieved a position of prominence in a number of intercollegiate sports. Having joined the Mid-American Conference in 1941, the University participates on the NCAA Division I level in 17 sports.

More than a century The University of Akron has been an active participant in Akron's Renaissance of commercial and artistic endeavor, a leader in the metropolitan area's intellectual and professional advancement, a center for internationally lauded research efforts, a source of enrichment, education, and vitality for Northeast Ohio. 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, and our world.

The University of Akron is committed to the liberal arts as its central mission. Our curriculum 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-assisted university. The University of Akron has a long tradition of serving the needs of part-time and full-time students through day and evening classes, and it attracts traditional-age students and adult students of all economic, social, and ethnic backgrounds. Committed to a diverse campus population, the University is at the forefront of all Ohio universities in recruiting and retaining minority students.

The University's first doctoral degree was, appropriately enough, awarded in polymer chemistry in 1959. But master's degrees were first granted as early as 1982. Doctoral work has now expanded to programs leading to the highest academic degree in 13 fields of study. In 1983 the receipt of state tax monies made UA a state-assisted municipal university, and on July 1, 1986, The University of Akron officially became a state-university. Today, more than 24,000 students from 55 states and 80 foreign countries are enrolled in its 10 degree-granting units. The University of Akron is among the 60 largest universities in the nation and boasts the third-largest principal campus enrollment of Ohio's state universities. The University offers a comprehensive academic package featuring select programs unsurpassed nationally and internationally. Alumni of the University number about 103,000 and include scientists, engineers, artists, lawyers, educators, nurses, writers, business people, and other professionals at work in every state and 84 foreign countries.

The 172-acre campus, with 76 buildings, is within walking distance of downtown Akron and is located in a metropolitan area of 2.5 million people. The University's presence in Northeast Ohio provides numerous opportunities in recreation, major college, amateur, and professional sports, concerts, cultural events, and commerce, all within easy driving distance and many accessible via public transportation. Located on campus, the Ohio Ballet, Emily Davis Art Gallery, University Orchestra, Opera/Musical Theatre, concerts, recitals, dance programs, Touring Arts Program, University Theatre, Repertory Dance Company, and professional artists performing at E.J. Thomas Performing Arts Hall contribute to the University's rich cultural environment. The University has achieved a position of prominence in a number of intercollegiate sports. Having joined the Mid-American Conference in 1941, the University participates on the NCAA Division I level in 17 sports.

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Together we maintain an intellectual culture that is accessible, disciplined, free, safe, and committed to excellence.

By our behavior with one another we endorse a culture of diversity, celebrating the uniqueness of the individual and developing our understanding and tolerance of differences in gender, ethnicity, age, spiritual belief, sexual orientation, and physical or mental potential.

We take responsibility for sustaining a caring culture, nurturing growth and fulfillment in one another and in the larger communities of which we are a part.

We insist on a culture of civility, united in our rejection of violence, coercion, deceit, or terrorism. We work to increase collaboration, cooperation, and consensus within rational debate.

Ours is a responsible culture. We expect each member of our community to carry out responsibly his or her duties for preserving the integrity, quality, and decency of our environment and our discourse.

Expectations and Responsibilities

To preserve and propagate the Culture of The University of Akron, everyone must engage in certain specific behaviors. Anyone new to this campus must be aware of the expectations we have of each other and be committed to fulfilling his/her responsibility in maintaining our culture.

Inside the Classroom

Inside the classroom, faculty are expected to respect the sanctity of the teaching-learning process by honoring their commitment to students in terms of time, fairness, and enthusiasm. It is the responsibility of faculty to set and enforce the classroom rules of conduct. Faculty members are expected to treat men and women, persons of all colors and ethnicities, and persons with varying abilities, spiritual preference, or sexual orientation with equitable respect and consideration. Faculty should value and pursue excellence in teaching as well as research. Faculty shall not engage in sexual or other forms of harassment or engage in inappropriate dual relationships with students. Faculty must not tolerate academic dishonesty or discrimination or harassment from students to other students.

Students are expected to respect the sanctity of the teaching-learning process by expressing respect for the faculty member as the organizer and guide through this learning experience, as well as for fellow students. Disruptive, disrespectful, discriminatory, harassing, violent or threatening behavior is explicitly prohibited. Academic dishonesty will not be tolerated. Students are expected to take responsibility for their own learning and, in return, can expect responsible teaching from the faculty member. Students should report unprofessional behavior on the part of faculty members. Students have a right to expect that they will not be sexually harassed, intimidated, or threatened.

On the Campus

On the campus, everyone is expected to respect and protect the dignity and freedom of each other. There must be the opportunity for expression of all points of view, free from name-calling or ridicule. All members of the University family are expected to be civil and tolerant of others. It is the responsibility of each member of the University community to express dissatisfaction with anyone who fails to meet the responsibility of civility and to request that they do so. In the event that cooperation can not be attained, proper authorities must be involved to insist upon these minimum expectations. Only by campus-wide compliance to these expectations can we achieve a clear sense of our campus culture and, accordingly, a sense of mutual pride.

Students can expect that all representatives of all departmental and administrative offices will treat them with respect, a sense of cooperation and with concern for their welfare. Students can also expect appropriate coordination of services among departments.

Everyone is expected to respect the campus environment by behaving in ways that protect the safety, order, and appearance of all campus facilities. Each person must take steps to preserve the ecological and aesthetic aspects of the campus.

Additional Behavioral Expectations

All members of the University community are required to abide by all laws and regulations of The University of Akron, the City of Akron, the State of Ohio, and the Federal Government. Students are expected to abide by the Student Code of Conduct and the University Disciplinary Procedures. Faculty, contract professionals, administrators, and staff are expected to abide by all University regulations and procedures.

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
- Accreditation Commission on Engineering, Computing, and Technology Education
- Accreditation Board for Engineering and Technology, Engineering Accreditation Commission
- American Assembly of Collegiate Schools of Business
- American Association of College Testing Centers
- American Chemical Society
- American Dietetic Association
- American Home Economics Association
- American Medical Association
- American Psychological Association
- American Speech-Language-Hearing Association
- Association of Collegiate Business Schools and Programs
- National Academy of Early Childhood Programs
- 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 Association of Schools of Public Affairs and Administration
- National Board for Registered Teaching
- National League for Nursing
- North Central Association of Colleges and Schools
- Ohio Board of Nursing
- Ohio 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 Colleges and Universities
- American Council on Education
- American Psychological Association
- American Speech-Language-Hearing Association
- American Society for Training and Development
- American Society for Training and Development
- Association of American Law Schools
- Association of American Medical Schools
- Council of Graduate Schools
- Council of the North Carolina State Bar
- Department of Baccalaureate and Higher Degree Programs (National League for Nursing)
- League of Ohio Law Schools
- Midwestern Association of Graduate Schools
- National Association of Graduate Admissions Professionals
- National University Continuing Education Association
- North American Association of University Services
- Ohio College Association
- Ohio Council on Continuing Education
- State University of New York Council of Graduate Schools

The School of Law is accredited by:

- American Bar Association

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

During recent years, the University campus has undergone many major changes. In 1961 the University’s 13 acres encompassed only 10 buildings. Currently the Akron campus covers 170 acres and includes 76 buildings. Plans have been made 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, features parklike pedestrian areas. Students have easy access to retail outlets, transportation, and churches. Akron is easily reached by automobile from major national east-west routes (Interstates 80, 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 Market Street and East Exchange Street in the downtown area. For airline passengers, limousine service is available from the Cleveland Hopkins International Airport and the Akron-Canton Regional Airport, south of Akron.

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. 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.

Akrón Polymer Training Center. The Akrón Polymer Training Center is an instructional classroom and laboratory facility for Polymer Engineering and Engineering and Science Technology Polymer Science classes.

Alumni Association Center. This recently remodeled building, north of East Buchtel Avenue at Fir Hill, houses the Office of Alumni Relations.

Auburn Science and Engineering Center. Named for Dr. 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, including the dean’s office, the Engineering Co-op Office, Mechanical, Electrical, Chemical, and Civil Engineering, as well as the Department of Biology, the recently completed $2 million biology research facility, and the science and engineering holdings of University Libraries.

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

Ballet Center. Located at 354 East Market Street, houses dance studios, a choreography laboratory, faculty offices, and offices for the School of Dance, the Ohio Ballet, and the Dance Institute.

Bierce Library. Named for General Lucius V. Bierce, an Akron mayor, lawyer, historian, state senator, philosopher, philanthropist, and swordsman, the building opened in the spring of 1973. It is the first fine library building in the city. It houses the book and periodical collections, the faculty, house audiovisual materials, maps, and microforms. University Libraries, including science and technology materials located in the Auburn Science and Engineering Center, have 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 campus, Buchtel Hall was completely restored in 1973 following a devastating fire in 1971. It is the University’s link with its predecessor, Buchtel College. It provides office space for numerous administrative officials of the University.

Buckingham Center. This building houses a Cultural Diversity Center, which includes the Black Cultural Center, Peer Counseling Program, Diversity Council, and a repository of African-American history.

Business Administration Building. This $9.1 million facility, located at 259 South Broadway, was completed in 1991. The structure consolidates office, classroom, and laboratory facilities for the dean of the College of Business Administration, the George W. Daverio 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 and Planning, Developmental Programs, and the academic computer testing facility, as well as the University’s Network Services and the Electronic Systems Operations.

Center for Child Development. This former Girl Scout regional headquarters building at 108 Fir Hill has been renovated to accommodate the University’s Center for Child Development.

Central Services Building. At 185 S. Forge St., this building 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 Information Services offices, main computer, and workrooms, as well as student and faculty microcomputer labs and time-sharing terminals.

Computer Store. Just west of the Gardner Student Center, the Computer Store is operated by Information Services.

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

E.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 theater productions, it is the largest multipurpose facility in the area. It houses a masterpiece in architecture, acoustics, and creative mechanisms. It stands at the corner of University Avenue and Hill Street.

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

Folh Hall. This building, at 150 E. Exchange St., provides modern, well-equipped School of Art facilities. Studios are available for graphic arts, photography, drawing, painting, metalsmithing, ceramics, and computer design. The Emily Cavis Art Gallery is also located in the facility.

Gallogg Hall. This building, at 200 East Exchange Street, formerly a Holiday Inn, is a coed residence hall and home to the Honors Program and honors students. It also provides office space for Academic Achievement Programs, and temporary quarters for the Hospitality Management Department and Crystal Room dining facility.

Gardner Student Center. This complex was named for Donfried H. Gardner, who was appointed dean of men in 1926, the University’s first dean of students in 1937, the first dean of administration in 1945, and, later, in 1969, was 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 billiards room, a bookstore, bank facilities, the Gardner Theatre, a cafeteria, and other dining facilities.

Mary E. Gladwin Hall. Housing the College of Nursing and biology laboratories, this building was named in honor of distinguished alumna Mary E. Gladwin (1897), who rendered unparalleled service to the nation during World War I. The $10 million complex opened in 1979 and includes the administrative offices of the College of Nursing, the office of the College Nurse, a Learning Resource Center that includes patient care simulation areas, an audiovisual center, and a state-of-the-art computer learning center.

Guzzetta Hall. Complementing the E.J. Thomas Performing Arts Hall, this facility was constructed directly across Hill Street. The $5.5 million structure, dedicated in October 1978, houses the Office of the Dean of the College of Fine and Applied Arts, administrative space for the School of Communication, and departmental space for the schools of Theatre Arts and Music. In addition to providing more than 40 student practice rooms, the complex houses radio and television studios, WZIP-FM, a small experimental theater, and a 300-seat recital hall.

James A. Rhodes Health and Physical Education Building (JAR). This structure was named for Dr. James A. Rhodes, who served as director of physical education from 1930 to 1967. The building contains an indoor jogging track, physical education laboratories, classrooms, the athletic director’s office, the sports information office, athletic offices, and a ticket office.

Hower Hall. Located on Fir Hill, this 19th-century manse has been designated a Historic Site 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 at Buchtel College. The building was completed in 1961, 1961 is the year the building houses the Department of Chemistry and features many innovative laboratories with the most sophisticated safety equipment, as well as classrooms and faculty and administrative offices.

Kolbe Hall. Named for the first president of the Municipal University of Akron, this building is being remodeled for the School of Communication. WZIP Radio, and a proposed on-campus learning facility. It also houses the University Theatre.

Leigh Hall. Named in honor of Warren W. Leigh, first dean of the College of Business Administration, this facility on Buchtel Common currently houses the John S. Knight Auditorium and interim space for School of Communication faculty and staff of the Kolbe Hall Construction Project.

Paul E. Martin University Center. Located at 105 Fir Hill, the Paul E. Martin University Center has changed from a private club serving dues-paying members to a U-shaped, operated restaurant and conference 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 10 p.m. The office of the Department of Development is located on the upper floors of the building.

Mary Dow Law Center. Named for Dr. Elizabeth B. Dow, prominent local attorney, philanthropist, 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 law library, classrooms, and study rooms, appellate review office, seminar rooms, and faculty offices. A $2.6 million addition provides library and support space, and a $1.5 million second
expansion has linked McDowell Law Center to West Hall, providing additional administrative office space. The law complex 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, is the companion building to the JAR. It contains offices of the Department of Health and Physical Education, a men's gymnasium, a gymnastics area, a combatives area, a motor learning lab, a human performance lab, an athletic training lab for sports medicine, a weight training and fitness center, an athletics-bating cage, the Center for Human Kinetics, and the office of the Department of Physical Education.

North Hall. Located on South Forge Street, this building houses, on a temporary basis, supplemental service space for the campus police department.

Ocasek Natatorium. The $6 million natatorium, completed in 1988, is a 70,000-square-foot structure that houses an Olympic-size swimming pool with adjacent spectator seating area, and locker room 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 Office of the Dean of the Buchtel College of Arts and Sciences and the following departments and institutes: Classics, Economics, English, General Studies, History, Modern Languages, Political Science, Philosophy, Sociology, the Ray C. Bliss Institute of Applied Politics, and the English Language Institute. The complex is at the corner of Buchtel Common and South Union Street.

106 Lincoln Street Building. This building houses the Purchasing Department and Network Services, and Telecommunications Department offices, as well as the office of the University Architect and Senior Director of Facilities Planning, and the Office of the Director of University Printing and Graphics.

143 Union Street Building. This building provides temporary administrative office space for the university treasurer, budget director, the payroll department, and Information Services network services group.

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, located at 146 Hill Street, houses physical facilities offices, craft shops, the central heating and cooling distribution center, and the Campus Police/Security Department.

The Polsky Building. The largest academic building in Ohio, this renovated downtown department store is home to the Graduate School, University Archives, the Archives of the History of American Psychology, the School of Speech-Language Pathology and Audiology and its Audiology and Speech Department, the Center of Public Administration and Urban Studies, the Center for Urban Studies, the School of Social Work, the University of Akron Service Consortium office, the Office of International Programs, the Department of Research Services and Sponsored Programs, and the Institute for Policy Studies. Also located here are the Community and Technical College dean's office, and the departments of Business Technology, Public Service Technology, Allied Health Technology, and Associate Studies. A fast-food service facility and a campus bookstore are in operation on the High Street level (third floor).

Polymer Science Building. Construction of the $17 million Polymer Science Building was completed in the spring of 1991. This two-story structure of steel, concrete, and glass, located at 170 University Avenue, houses offices for the dean of the College of Polymer Science, and the Rubber Division of 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 at 248 East Buchtel Avenue has a cafeteria and dining room for 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, four miles from campus, features an artificial turf playing field, seating for 35,000, locker rooms, concessions, and a press box.

Schrenk Hall. Named for Harry P. Schrenk, longtime member and chairman of the Board of Trustees, this building, which adjoins the Student Center and Science Building, is comprised of office structures and a parking deck. Schrenk Hall contains the office of the president of the Faculty Senate, Civil Engineering offices, the Construction Technology program, and classroom space. Schrenk Hall South provides facilities for the School of Home Economics and Family Ecology, the Community and Technical College's Engineering and Science Technology Division, and the Army and Air Force ROTC.

Simmons Hall. Named for Hezekiel Simmons, University president from 1933 to 1961, this hall houses the University Counseling and Testing Center and the Department of Psychology. The Institute for Life-Span Development and Gerontology occupies a portion of the building; a student interested in employing counseling and assistance will find the Placement Services office in this facility.

Spicer Hall. This major student services building houses the Registrar's Office, Academic Advisement Center, the Office of Student Financial Aid, University College, the Office of Services for Students with Disabilities, and the Student Assistance Center, as well as the Parking Systems office, and offices for the University Controller, the University Auditor and External Auditor, the Cashier's Office, the Loans, Receivables Office.

277 Broadway Street Building. This building provides administrative space for the Office of Human Resources, including benefits, employment services, labor and employment relations, and personnel services, as well as the Department of University Communications.

West Hall. This renovated structure on Wolf Ledges Parkway is part of the McDowell Law Center.

Whitby Hall. Named for G. Stafford Whitby, a pioneer in the development of polymer science, this building opened in 1975. Housed in this facility are some polymer science laboratories and the Department of Chemical Engineering.

Zook Hall. Named to honor George F. Zook, president of the University from 1925 to 1933, this central common facility houses the College of Education and provides a lecture room that seats 245, general classrooms, a handicrafts room, a training demonstration classroom, a microteaching laboratory, educational media lab, 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, for up-to-date facilities and equipment. Many of these facilities are described below.

**Buchtel College of Arts and Sciences**

The Department of Biology houses greenhouses, controlled-environment chambers, a molecular research facility, a molecular research center, animal research laboratories, and equipment that includes advanced light microscopes (differential interference contrast, fluorescence), electron microscopes (scanning and transmission), scanning electron microscopes (analytical, detection of compounds), and cryogenic field emission scanning electron microscopes. The Chemical Sciences facility includes an advanced spectrometer, ion chromatograph, additional gas chromatographs, and infrared spectroscopy. Other modern research tools for identification and characterization of compounds. The Chemical Sciences facility houses an advanced spectrometer, DNA sequencing apparatus, and physiography, vehicles and boats are available for fieldwork.

The Department of Chemistry is located in Knight Chemical Laboratories. The department offers outstanding research facilities, such as nuclear magnetic resonance spectrometers, research-grade gas chromatographs, infrared and ultraviolet spectrophotometers, and other modern research tools for identification and characterization of compounds. The Chemical Sciences facility maintains an inventory of more than 1,100 items, including chemicals, glassware, and apparatus.

The Department of Economics is housed on the second floor of Olin Hall in a modern office facility with space for faculty and graduate assistants. The Smale Gundren Memorial Reading Room offers an intimate setting for one-on-one counseling for faculty and students as well as offering the collection of the past distinguished professor. Computing is very important to the study of economics. Students of economics have a shared computer facility containing 10 Gateway 2000 machines running both DOS and Windows as well as a private computer lab within the department. A variety of software programs, including economic tutorials, WordPerfect, SAS/MVS, SAS/IML and SAS/PC as well as laser printing services are available. Network access allows students to search for books on Ohio Link, submit jobs remotely to the University mainframe, or search the world Wide Web for the latest economic information. The department maintains an active gossip and World Wide Web access to economic resources worldwide. The proximity of the labs to the faculty encourages the type of interaction that will enhance students' learning.

The Department of English maintains a Communication Center, where English students may create and print pages, do desktop publishing, and gain access to the multimedia facilities through the Zephyr Network and Internet. A department faculty member edits the Faulkner Journal. The Thackaberry Room, located in the department, is a reference library for faculty and graduate students. It 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 and Planning houses laboratories for cartographic/GIS instruction, research and production. Equipment consists of computers and peripheral devices for digitizing, scanning, printing and plotting. A darkroom with a process film camera continues to be maintained. The department also houses a varied research collection of maps, aerial photos and periodicals.

The Department of Geology has modern instrumentation for field and laboratory studies which includes an automated electron microscope, automated X-ray diffraction system, ion-coupled plasma spectrometer, atomic absorption spectrometer, ion chromatograph, coal and sulfur analyzers, oxygen bomb calorimeter, gravimeter, resistivity gear, refraction seismography, magnetometers, image analyzer, cathodoluminescore, microcomputer laboratory, with printers, modems and video digitizers, wide carriage network plotter, flat bed and slide scanner, core laboratory, research microscopes, a well-equipped darkroom, rock saws, automated thin-section equipment, portable rock corder, Giddings soil probe, four-wheel-drive vehicle, and two 15-passenger vans.

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

The Department of Mathematical Sciences is located on the upper floors of Aver Hall. Students of mathematics, statistics, and computer science have access to a wide variety of computing facilities, operating environments, languages, and software in laboratories maintained in and by the department.
Two labs, which contain Intel-based computers, are connected by a Banyan VINES network. One of these labs is frequently used for class activity by students. This lab is dedicated to the study of many entry-level computer science courses in mathematics and computer science. The other lab is an open lab in which students can work on assignments. The PCs themselves have a Windows 95 environment. NFS TCP/IP has been installed and is accessible via the Internet, telnet, Mosaic, and Netscape. Software available includes Minitab, SAS, Mosaic, and MATHCAD of Mathematical Statistics, Turbo C++, Mac Assembler, Visual Basic, and Turbo Pascal for computer science; and Perfect Word, Microsoft Office, and Microsoft Works for more general use.

Another open laboratory is mainly devoted to a Unix client/server environment. There are ten SUN SparcStations (Solars 2.3/OpenWindows) which support eight X-terminals. These devices are used for many of the upper-level computer science courses. They are on a separate local Ethernet network supported by a SUN Sparc server 20. They also support Mosaic and Netscape. Languages available include Lisp, FORTRAN, Pascal, two versions of C and C++, and Perl.

The campus has a backbone network on which each of the local area networks is connected. Also on the backbone is a DECstation 5000 running ULTRIX, an IBM 4381, Model T32, running MVSESA, and an IBM 3672, running MVSESA, Pascal, and MVSESA. The Center for Statistical Consulting provides graduate students with a work experience in which they assist others in the solution of a wide variety of statistical problems. The department makes the appropriate modifications, updates, and purchases to maintain the laboratories and has specialized telephone and automatic dialing equipment. The survey facility is used for grant and contract research covering internal, 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. Twenty-five stations are available for faculty and graduate student support.

The Department of Psychology owns over 50 microcomputers that are available to faculty and students. Also available are research areas for the study of small-group behavior, and a psychology clinic complete with videotape capabilities for the study of counseling processes and outcomes. Two dedicated research labs contain Ethernet workstations and IBM compatible computers and LaserJet printers. The mainframe access lab for exclusive use of the psychology department doubles as a connection via PCs and terminals. Supported are major statistical packages—SAS, SPSS, LISREL—which are accessed through VM-CMS. PC versions of SAS, SPSS, and LISREL are also available. Portable computers are available for field work. A full-time research programmer/analyst provides the software and hardware support for the department and other custom software for computerized research and data collection.

The Department of Sociology has collaborative research projects and is the largest research laboratory on campus. The center contains laboratory computers, a Macintosh computer with Minitab, JMP, and SYSTAT statistical software, as well as a connection to VM for access to SAS and SPSS mainframe computing.

The College of Business Administration

The College of Business Administration is located in the 81,000 square-foot, four-story College of Business Administration Building, which houses the college’s offices, classrooms, computer laboratories, and advising services. The departments of Finance, Management, Marketing, the George W. Davico School of Accountancy, the Fitzgerald Institute of Entrepreneurial Studies, the Fisher Institute for Professional Selling, and the Institute for Global Business have offices in the College of Business Administration Building. The college is accredited by the American Assembly of Collegiate Schools of Business, the most prestigious accrediting agency for business schools.

Tiered amphitheater-style classrooms provide close contact between students and professors. The Fisher Business Computer Laboratory provides several computer classrooms, each equipped with nearly 50 personal computers and a homework laboratory for students with over 70 computers. Each PC is equipped with a variety of computer programs for training in sales, management, negotiation, leadership, and employment interview preparation.

The Goodyear Tire and Rubber Company Lecture Hall, the building’s largest classroom, is equipped with a state-of-the-art audiovisual system capable of projecting textbook material, transparencies, slides, videotapes, computer screen images, and the display onto the room’s 10-by-10-foot screen. Other classrooms also offer multimedia capabilities.

Facilities for seminars, continuing education programs, and student organization meetings are provided in the John P. Murphy Executive Room and adjacent small-group meeting rooms.

The CBA Satellite Office of Placement Services is located in a suite of eight offices on the second floor. The suite includes a reception area, resource library, and interview rooms. The Placement Center’s dedicated staff of career counselors provides students with a resume writing service, interview strategies, on-campus interviews, job referrals, and internship/cocurricular opportunities. The CBA’s internship and cooperative education programs are among the most extensive on campus.
Offices of the college's eighteen active student organizations are located in the James Dunlap Student Organization Office Suite just off the atrium lobby. Student organizations offer opportunities for development of social, professional, leadership, and networking skills through interaction with business professionals and other students.

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, and Memorial Hall.

The Department of Educational Foundations and Leadership serves undergraduate and graduate students in the College of Education. The department offers instruction in core courses in teacher education. In the area of leadership, the department provides graduate courses in school administration and educational administration. The department members also teach the core curriculum of historical, philosophic, psychological, and social foundations required in all graduate education programs. The department also provides instruction in the areas of secondary education and early childhood education. The department also provides instruction in special education and the areas of higher education, distance education, and online instruction.

The Department of Physical and Health Education prepares students for careers in teaching, athletic training for sports medicine, health education, coaching, related recreational fields, and related health fields. There are laboratories for the study of exercise physiology, motor behavior, testing, statistics, and computer utilization in physical and health education. The department also has access to the James A. Rhodes Health and Physical Education Building (classrooms, the main gym, an indoor running track, a multi-purpose room, and four teaching station areas), Memorial Hall (classrooms, as well as large and small gymnasiums), campus Natatorium (a swimming pool, racquetball courts, and a weight room), and Lee Jackson Field (14 tennis courts, an outdoor running track, and two softball fields). The department also has a swimming pool, and a weight room, and Lee Jackson Field (14 tennis courts, an outdoor running track, and two softball fields).

The Department of Curricular and Instructional Studies includes both the areas of secondary education and elementary education. Instruction in secondary education prepares students for teaching careers in the middle, junior, and senior high school levels in various academic and vocational subject fields. Initial teacher preparation programs are available at the undergraduate, postbaccalaureate, and master's degree levels. The department also offers the Teaching Education degree, which prepares students for teaching training and other professional positions at the postsecondary level and for business and industry settings. Instruction in elementary education uses those strategies appropriate for the Pre K-8 child in the teaching learning situation as the basis for its broad offering of courses in the disciplines of language literacy, mathematics, social studies, science, and art. Emphasis is given to high-level thinking skills and the integrated curriculum. A mathematics lab and art lab facilitate the instruction of preservice teachers.

The University Center for Child Development, directed by the department faculty, provides day care for children while serving as an experiential learning site for teacher education students.

The Department of Counseling and Special Education incorporates three divisions: Counseling and School Psychology, both graduate programs, and Special Education. The department prepares undergraduates as teachers for children with special needs and graduate students to be master teachers and supervisors of special education programs. The department operates a multidisciplinary clinic, the Clinic for Child Study and Family Therapy.

College of Engineering

The College of Engineering provides educational opportunities for students at both the undergraduate and graduate levels who wish to pursue careers in engineering.

The College has undergraduate programs in Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Computer Engineering, Engineering, and Mechanical Polymer Engineering. The programs in Chemical, Civil, Electrical, and Mechanical are currently accredited by the Accrediting Board for Engineering and Technology and accredited for Computer Engineering and Mechanical Polymer Engineering is expected in 2002. The Mechanical Polymer Engineering is partly staffed by faculty from the Mechanical Engineering Department in the College of Engineering and the Polymer Engineering Department in the College of Polymer Science and Polymer Engineering.

The Construction Technology Program provides three years of study beyond the first two years in the Associate and Technical College and offers a Bachelor of Construction Technology degree.

The College offers one of the oldest and most successful Cooperative Education programs in engineering in the United States. Currently, over 80% of eligible undergraduates participate in the Cooperative Education program.

The College offers the Master of Science degree in Chemical, Civil, Electrical, and Mechanical Engineering; and the Master of Science in Engineering with specializations in Biomedical Engineering, Polymer Engineering, and Engineering Management.

The Doctor of Philosophy degree in Engineering is offered in the interdisciplinary fields of Environmental Engineering, Mechanics, Systems Engineering, Materials Science, Transport Processes, Biomaterials Engineering, and Polymer Engineering. There is a coordinated Doctor of Philosophy program in Engineering with Youngstown State University and a joint MD/Ph.D. program in Engineering with the Northeast Ohio Universities College of Medicine.

The College has a strong, active, and dedicated faculty. The College's graduate programs are visible and highly ranked. Graduates of these programs regularly achieve the highest scores in the state. The College provides graduate support for undergraduate and graduate projects. Several nationally visible research centers are currently active. These include the Computational Mechanics Research Center, the Process Research Center, the Institute for Biomedical Engineering Research, and the Microscale Physicochemical Engineering Center. The College is active in numerous international and national public sector. The Engineering Advisory Council, with both industrial and public membership, works actively on behalf of the College.

The Department of Biomedical Engineering has nine major laboratories for instruction and research use. The biomechanics laboratory is equipped with materials testing equipment and finite element analysis capabilities. The image science and biomechonics laboratory has an ultrasound machine for clinical applications, an image processing machine for imaging devices. The image processing laboratory is built around a computer workstation, two of which are equipped with image processing accelerators. Image processing and display software and a large database of medical images are available for students to use in individual research and class projects. The human interface laboratory is equipped with a virtual reality, telemanipulator, feedback therapy, and minimally invasive surgery. The rehabilitation engineering laboratory is equipped to conduct collaborative research on problems related to stroke, head injury, and arthritis patients. The biomedical instrumentation laboratory is equipped with continuous wave Doppler ultrasound equipment for ultrasound technology and vascular ultrasound applications. The National Science Foundation's Center for the Study of Ultrasonic Technology and its equipment is available for students to use. The biomechanics laboratory is equipped for an injection movement analysis system, as well as various imaging devices. The image processing accelerators. Image processing and display software and a large database of medical images are available for students to use in individual research and class projects. The human interface laboratory is equipped with a virtual reality, telemanipulator, feedback therapy, and minimally invasive surgery. The rehabilitation engineering laboratory is equipped to conduct collaborative research on problems related to stroke, head injury, and arthritis patients. The biomedical instrumentation laboratory is equipped with continuous wave Doppler ultrasound equipment for ultrasound technology and vascular ultrasound applications.

The Department of Chemical Engineering possesses a variety of modem 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. The Process Research and Development laboratories have nine micropilot plants for divers process applications, element analyzer, sulfur analyzer, automated chloride analyzer, particle counter, x-ray fluorescence, TG/DTA, oxygen-based calorimeter, TGA-Mix reactor, FTIR, GC, and four fermenter systems.

The Chemical Reaction Engineering laboratories have 14 high pressure reactor systems that are currently being used for various chemical reaction studies, including oxygenated fuels polymerization, coal liquefaction, supercritical reactions, etc. An in-situ Raman and mass spectrometry system is also available. The laboratory also includes a state-of-the-art laser light scattering facility including a Laval argon-ion laser, a vibration isolated optical bench, a Brookhaven correlator and probability analyzer, and an IBM PC-based data acquisition system. The focal point of the undergraduate laboratories is the Corning Glassplate, 6-inch and 12-inch distillation units, which includes a 12 כניסe bubble cap column and an 8-foot high packed-bed column. The unit is 24 feet high. There is also a pilot plant with a 500-gallon reactor and a packed column stripping facility. The laboratories also include a fluid-flow measurement equipment and heat transfer study systems.

The Department of Chemical Engineering has an undergraduate computer and ASPEN laboratory which also provides students self-study areas as well as excellent on-line computer access.

Background Information

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The Department of Civil Engineering has five major laboratories. In the environmental engineering laboratory, students learn to analyze water, wastewater and contaminated soils to assess their quality and to determine the most effective treatment techniques. Laboratory equipment includes UV-visible spectrophotometers, respirometers, gas chromatographs, high-performance liquid chromatographs, toxicity analyzers, and a total organic carbon analyzer. Water and wastewater analytical kits and specialized meters are also available for field studies.

The Wendell Ladue undergraduate computer room is equipped with personal computers and other computer facilities for the use of civil engineering students for both class and personal use.

In the hydraulic laboratory a biting 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 lake shore erosion, breakwaters, and off-shore structures. The mobile bed tank is used to demonstrate erosion and the sediment movement patterns around bridges, piers, and culverts and storm drain outlets.

In the soil mechanics and foundation engineering lab, a student learns how to analyze soil by a variety of tests and equipment to determine shear stress strength characteristics, compaction characteristics, and seismic and electrical resistivity equipment for geophysical exploration of soil and rock deposits.

In addition to the standard equipment for routine testing, the laboratory has a computer-controlled cyclic triangular test system, pneumatically loaded dumbbell specimens, flexible wall permeameters, a portable static/dynamic cone penetrometer, a pedo-drilling analyzer, and capability for ground vibration monitoring and analysis.

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

The Department of Electrical Engineering maintains circuits, analog and digital electronics, control, computer, energy conversion, microprocessor interfacing, power electronics and electromagnetic/microwave laboratories. Laboratories follow instruction to help the student apply the material learned in class.

In the circuits laboratory students learn the basics of circuit design, instrumentation and measurements. The laboratory is equipped with digital oscilloscopes, digital voltmeters and other basic measuring equipment.

The analog and digital electronics laboratory builds on the circuits sequence and introduces the student to more advanced design tools and concepts, including computer-simulated circuits. In addition to digital oscilloscopes, the laboratory contains signal generators and the like, specialized equipment such as a transistor curve tracer, single-board microcomputers, development systems, personal computers and other specialized instruments.

The computer laboratory is an open laboratory with free access to students. The laboratory contains networked personal computers with all software necessary for other courses, as well as word processing and networking software. The laboratory also serves courses in computer engineering and many elective courses and for research purposes.

The two control laboratories teach the basics of analog and digital control. The laboratory is equipped with digital measuring equipment, analog and digital computers and interfacing components.

The energy conversion laboratory teaches electric machine, energy conversion, and machine control. The laboratory is equipped with motors, generators and controllers, both digital and analog. Emphasis is placed on computer control of machines.

The microprocessor interfacing laboratory is dedicated to interfacing the computer to the outside world. Students learn how to connect devices to computers, how to program them and how these can be used in design. The laboratory uses a variety of real-world designs and projects to keep students up to date on this important engineering activity. The equipment in the laboratory includes personal computers, single board microcomputers and industrial controllers in addition to measurement equipment and components.

The power electronics lab is taught as part of a power electronics course and teaches design of power components and circuits for operation at high voltage, high current and high power. Digital controllers and all digital measuring equipment account for a very modern laboratory.

The electromagnetic/microwave laboratory uses basic experiments in transmission lines, waveguides and antennae to teach the principles involved. In addition to the basic equipment, the laboratory has a shielded room for specialized measurement equipment and components.

Additional laboratories in software engineering, signal processing and advanced control exist as part of elective courses.

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

- Thermal and Fluid Science Laboratory with internal combustion engines, a super sonic 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 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, equipped with a complete range of strain gage instrumentation for both static and dynamic measurements.
- Mechanical Design Laboratory with several major software packages for enhanced design connected to the University's engineering computer graphics facility.
- System Dynamics and Controls Laboratory composed of several microprocessors, analog computers, and digital control as well as equipment for process control and robotics.
- Vibration and Acoustics Laboratory with electromechanical shakers, sound pressure level instrumentation, and frequency spectrum analyzers for modal analysis.
- Metallurgy 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 Communication features a television classroom/studio and a wide complement of supporting audiovisual equipment, including graphics generation and interactive data acquisition systems. Audio recording equipment is available for location use. There is an audio recording facility with multitrack capability. The School also houses radio station WZIP an on-air 7500 watt FM radio station serving northeastern Ohio. WZIPFM is operated by UA students under the supervision of professional broadcasters and gives students an opportunity to develop skills in broadcasting and communication through the completion of on-air assignments. A multimedia production/editing laboratory/classroom supports class instruction. News, publications, and other writing classes have access to a Macintosh computer laboratory with state-of-the-art development and publishing software, sound, graphics, and print capabilities. The School works in cooperation with local organizations, non-profit groups and professional agencies in an internship program for upper-level students.

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

The School of Home Economics and Family Ecology has food and nutrition laboratories, textile conservation and clothing laboratories, an interior design and drafting area, and a multipurpose lecture/laboratory area. The specialized 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 is housed in Guzzetta Hall and also utilizes the E.J. Thomas Performing Arts Hall. Guzzetta Recital Hall seats 250 and is equipped with a pipe organ, harpsichord, two concert grand pianos, and a recording booth. The Music Computer Center is equipped with Macintosh computers and MIDI sound and video equipment. An electronic music studio features digital and analog multitrack recording and sound synthesis equipment for music composition. Classrooms, studios, and 40 practice rooms (acoustical sound modules) are used for teaching, rehearsals, and practice.

The School of Social Work offers CSSIE-accredited professional training to social work students by linking them to a variety of local health and human services community agencies and organizations. The strong commitment and interaction with a network of agencies in the community serves as a laboratory for students.

The School of Theatre Arts uses three different performing spaces to present its annual season of two to four productions. Guzzetta Hall houses the versatile "black box" experimental Sandefur Theatre as well as rehearsal, teaching, and shop facilities. Kolbe Hall is the site of the 244-seat University Theatre, complete with support facilities. The conventional proscenium theatre is the home of theatre productions, as is the multipurpose E.J. Thomas Performing Arts Hall. Student productions are performed in Studio 28, Sandefur Theatre, and Kolbe Theatre.
College of Nursing

The College of Nursing, housed in May Gradolin Hall, provides professional nursing education at the undergraduate and graduate levels. The college is approved by the Ohio Board of Nursing, and all programs are fully accredited by the National League for Nursing. The college is also a Student Financial Aid Office which provides academic advising services to prospective students. The college houses a state-of-the-art Learning Resource Center, including a computer laboratory and the Center for Nursing, which is used by faculty and students for practice and research.

The undergraduate nursing curriculum is a six-semester clinical sequence after completion of University and college prerequisite courses. The undergraduate program offers the B.S.N. program and prepares for licensed practical nurses and registered nurses who wish to obtain the B.S.N. degree. The graduate program prepares nurses in the areas of education, administration, and/or advanced practice. Areas of specialization include child and adolescent health nursing, adult health nursing, infectious disease nursing, mental health nursing, and nursing research. There is also a sequence within the graduate program for registered nurses from associate degree and diploma programs to obtain a master's degree.

Students at all levels have clinical experience in a variety of settings including hospitals, clinics, rehabilitation agencies, long-term care facilities, community health agencies, mental health agencies, pediatric agencies, and home care settings.

College of Polymer Science and Polymer Engineering

The College of Polymer Science and Polymer Engineering offers only graduate degrees leading to the Master of Science and Doctor of Philosophy in both polymer science and Polymer Engineering. In addition, there are elective courses in both polymer science and polymer engineering for undergraduate science and engineering majors.

The facilities of the Department of Polymer Science and the Maurice Morton Institute of Polymer Science support fundamental and applied research in polymer chemistry, physics, and many aspects of polymer behavior. There are extensive laboratories for polymer synthesis chemistry and for the characterization of macromolecules and polymer morphology. The macromolecular modeling center provides state-of-the-art computer modeling capabilities for research, and provides a way to introduce chemistry students in local high schools to computer modeling.

A nuclear magnetic resonance laboratory is maintained with several high-resolution instruments supervised by a professional staff. The applied research section of The Maurice Morton 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 problem solving and data. The total value of major instrumentation and equipment housed in the polymer science laboratories exceeds $2 million.

The Department of Polymer Engineering and Institute of Polymer Engineering maintain a broad-based range of processing, structural, and rheological/mechanical characterization facilities. Processing facilities include unique blending/compounding facilities with five twin-screw extruders, a Buss kneader, and seven internal mixers including flow visualization capability. Seven single-screw extrusion lines for plastics and rubber, with ultrasonic and sound waves and rotational mandrel dies, and with single/multiscrew bubble tubular film and cast film extrusion capability as well as a biaxial film stretcher. Molding facilities include screw injection molding capability of five machines, block molders, gas assist thermoplastic injection molding and compression molding with composites capability. The Institute of Polymer Engineering is the home of the EPIC-M.A. Haines Compounding and Blending Center and the Molding Technology Center. 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 stress rheometry, dynamic mechanical, tensile and impact testing.

The Akron Polymer Testing Center, which serves as a laboratory for the processing and testing of rubber and plastic materials, was opened in June 1984. The Center was developed at the urging of the Akron Regional Development Board and EPIC, an industrial-government-university consortium, to train machine operators and technicians for the polymer industry. The Center also provides classrooms and laboratories for graduate students in Polymer Engineering, for undergraduate students in Mechanical Polymer Engineering, and for two-year associate degree students in Polymer Technology as well as continuing education courses for scientists and engineers.

University Libraries

Library facilities are housed in three separate locations: in Bierce Library on Buchtel Commons, in the Science Library in Ambrose Science and Engineering Center, Room 104, and in the Archives in the Polasek Building, lower level.

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 from other libraries through the OhioLINK network or other resource-sharing arrangements.

The University Libraries' collections contain more than 2.8 million items: books, periodicals, government documents, curricular materials, microforms, maps, audiovisual materials, and archival documents. The library receives nearly 5,000 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 Ohio Library and Information Network, the Northeast Ohio 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 Bierce Library and in the Science Library. Group study rooms and typing facilities are also in Bierce Library.

Audiovisual Services, located in Bierce Library, Room 63B, maintains an extensive centralized collection of media, hardware and audio-visual resources for student and faculty use. It also has a collection of instructional materials in various media formats (films, slides, etc.) to supplement class-room instruction. Its new Media Center supports faculty who want to improve teaching through the use of technology. Audio Visual Services also designs, installs, and maintains technology.

In the Library

information services department

The Information Services Department provides communication and computing support for The University of Akron. There are four divisions within the department:

- Centralized Access to: Information Services Help Desk (located in the Polasek Building, lower level)
- Technical Services (Computer Center)
- Telecommunications Services (Lincoln Building)
- Applications Services (Computer Center)

The Information Services Help Desk can be reached at (330) 972-6888. Help Desk personnel can answer questions or refer callers to the appropriate source for more information. The walk-in consulting desk is located in the Computer Center, room 144, and can also be reached by E-mail at consult@uakron.edu. Free seminars, workshops, and dial-in software are available.

There are six general purpose computing labs for students, faculty and staff to use. In addition, there are over 130 Windows/DOS and Macintosh computers in the Computer Center (Computer Center). These computers have personal productivity tools (such as word processing and spreadsheets) and network access. The labs are located in:

- Computer Center, rooms 139, 141 and 146
- Gallucci Hall, room 279
- Bierce Library, room 274A
- Polsky, room 267
- Olin Hall, room 273
- Mary Gradolin Hall, room 306

There are more than 300 dial-in lines for faculty, staff, and students to use with their computers and modems from home to access UA and Internet networks.

UA's campus network, named UAnet, has about 4,000 computers connected on campus. To use these services, faculty, staff and students should go to the Computer Center at 185 Carroll Street and obtain a UAnet ID. The network provides access to:

- ZipLINK - UAnet library catalog
- OhioLINK - the library catalogs of all State of Ohio universities and colleges.
- Electronic Mail (E-mail)
- The Internet: a worldwide network, including the popular World Wide Web (WWW) multimedia information protocol
- Usenet news groups
- Discussion lists
- Wayne College
- UA Center at Coventry North
- IBM mainframes and Digital servers

Student information is available using a touch-tone telephone and a PIN number. Services available in this manner include:

- Registration for classes
- Personal financial aid information
- Course grades
- Fee payment by credit card

Computer-Based Education and Testing Services provide on-line tutorials, instruction, and testing for UA. The Testing Center is located in Carroll Hall, room 325.
Applications development and support for University systems is provided. Major systems supported include Human Resources, Student Information, Alumni and Financial Aid systems.

Central computer services include:

- A CMOS-based IBM 9072/R41 CMOS running MV/ESA for administrative and batch research applications
- An IBM 4381/R14 running VM/ESA for interactive computer language support
- A Digital DECsystem 5000/240 for unix and c programming
- A Digital AlphaServer 1000 for E-mail and web home pages
- A Digital AlphaServer 2100 for Ziplink, the on-line library catalog
- A Digital DEC 3000/30LX Lawson server
- An IBM RS6000/290 for graphical, secure information access
- An NCS Optiscan 21-75 optical mark sense reader for scanning mark sense forms

Other services provided to the campus by Information Services include:

- PC purchase information and assistance
- On-campus hardware and software installation services for departments
- Computer repair services (on-campus and on-call)
- Cable television - ZIP-TV
- Telephone and voice mail services
- Security systems
- Cable plant management
- Cable television and network connections to residence hall rooms in Grant, Garson, Gallucci, and the Townhouses
- Rental of public address systems for campus events

The Information Services Department continues in its quest to bring staff and students the most up-to-the-minute advances in computer applications, research, knowledge and training.

Student Affairs

COUNSELING, TESTING, AND CAREER CENTER

The Counseling, Testing, and Career Center offers a wide range of psychological counseling, therapy, testing, career planning, and outreach and consulting services to the University community. The Center is staffed by psychologists and psychology trainees, and all services are confidential and free to enrolled students. The Center is located in 163 Simmons Hall, (330) 972-7082.

Counseling Service

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

- Personal-emotional counseling deals, within a short-term framework, with feelings of loneliness, inadequacy, guilt, anxiety, and depression; harmful involvement with alcohol and drugs; recovery from acquaintance or stranger rape; interpersonal relationships, especially with the immediate family, intimate relationships, and roommates; personality development, identity, and self-esteem.
- Educational counseling relates to educational goals, motivation, abilities, and the development of effective study habits and skills.
- Group educational programs through the College Survival Kit 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.

Testing Service

- A wide range of testing programs including college entrance examinations, career assessments, personality assessments, and some learning disability assessments are available to students.

Career Service

- 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 career guidance and information systems, SIGI and Ocis.

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. Topics include, among others, academic performance, wellness, sexuality, and appreciating cultural diversity.

The Counseling, Testing and Career Center also cooperates with the Office of Placement Services in jointly providing an extensive range of career development services.

STUDENT HEALTH SERVICES

Health services are available to all students enrolled at The University of Akron. It is located in Robertson Dining Hall, immediately adjacent to the North Quad residence halls. This facility is capable of handling most acute injuries and illnesses. Student Health Services is open from 8:00 a.m. to 7:00 p.m., Monday through Thursday, and from 8:00 a.m. to 5:00 p.m. on Friday.

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 University Police or 911 immediately. The University assumes no legal responsibility or obligation for the expenses of such transportation or for medical services at the hospital.

Student Health and Accident Insurance, designed specifically for students, 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. Completed health forms and other health-related records are treated as confidential and are kept in the Student Health Services office.

SERVICES FOR STUDENTS WITH DISABILITIES

According to provisions outlined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, students with disabilities are entitled to equal access and reasonable academic adjustments and accommodations by institutions of higher learning.

The Office of Services for Students with Disabilities is part of the Student Assistance Center in the Division of Student Affairs. It is the responsibility of this office to provide students with disabilities the necessary services that will ensure the opportunity for full participation in University academic programs, activities, and services.

If a student has a specific disability, he or she should contact the Office of Services for Students with Disabilities, Seager Hall 124, (330) 972-7929 (Voice), or (330) 972-5764 (TDD).

CENTER FOR CHILD DEVELOPMENT

The University of Akron Center for Child Development provides a variety of early childhood programs which are open to students, faculty, staff, and the community. Each classroom is staffed with a Pre-K certified teacher and student aides. Opportunities are provided for the children to engage in developmentally appropriate activities in the following areas: creative arts, language arts, music and rhythms, science exploration, gross motor and fine motor development, socio-dramatic play, multisensory activities, and computer experience. The program emphasizes the development of a positive self-concept through an anti-bias curriculum.

The Center for Child Development is open during the Fall and Spring semesters of the academic year between 7:30 a.m. and 6:00 p.m. Monday through Friday. The program offers hourly, flexible and half-day programs for children three to five years old and toilet trained. Full-day sessions are available year round for children two and a half to five years old and toilet trained.

A summer preschool flextime program is offered Summer Session I.

A summer program is also offered for school-aged children. This program is offered during Summer Sessions I and II from 7:00 a.m. to 6:00 p.m.

For more information call the Center for Child Development, (330) 374-8210.
University Police

Campus law enforcement is primarily the responsibility of The University of Akron Department of Police. University police provide 24-hour-a-day patrol protection to the campus, parking lots, residence halls, and on-campus fraternity and sorority houses. The Police Department is located in the Physical Facilities Operation Center at the corner of Hill and South Forge streets and is staffed 24 hours a day by full-time dispatchers.

The University's 28 police officers are commissioned by the State of Ohio with full law enforcement authority and responsibilities identical to local police or sheriffs. The UA Police Department works closely with the Akron Police Department and other law enforcement agencies. Reports are exchanged every business day so that both agencies receive pertinent information. Information is shared through personal contacts and by phone and radio. University and City of Akron police regularly work together at large campus events such as athletic competitions and dances.

UA Police officers have met or exceeded the training standards of the Ohio Peace Officers Training Council. They also receive ongoing in-service and specialized training in first aid, CPR, firearms, defensive tactics, legal updates, and other skills.

The UA Police enforce laws regulating underage drinking, the use of controlled substances, weapons, and all other incidents requiring police assistance. They also are responsible for public safety services such as crime reports, medical emergencies, fire emergencies, and traffic accidents.

It is the goal of every member of the University Police Department to promote, preserve, and deliver feelings of safety and security through quality service to the members of the University community.

Drug and Alcohol Prevention

The issue of drug and alcohol abuse concerns the entire University community as well as the surrounding neighborhoods. The U.S. Drug Free Schools and Communities Act Amendments of 1989 require schools, colleges, and universities to receive federal financial assistance to implement and enforce drug and alcohol prevention programs for students and employees.

The University of Akron prohibits the illegal use, possession, sale, manufacture, or distribution of drugs and alcohol by all students and employees on University premises or as part of any University activity. Any misuse of substances by University students and employees that presents a threat to the University community is prohibited.


Crime Prevention

Through the Office of Crime Prevention, University police officers provide educational programs to students and employees on personal safety, sexual assault, acquaintance rape prevention, drug and alcohol abuse prevention, and related topics. The University Police Department welcomes the chance to talk with any campus group. Campus dialogue between UA Police and the public has created greater confidence in the community to report unlawful activities.

Potential illegal actions and on-campus emergencies can be confidently reported by any student, faculty, or staff member. Complaints received by UA Police which fall outside their jurisdiction will be referred to the appropriate agency, or the complainant will be provided a phone number where the complaint can be filed. Likewise, other agencies refer complaints to University Police when appropriate.

Two police officers patrol parking lots from 7 a.m. until the latest evening classes let out. UA police also serve as motorcycle officers with battery jumps, inflating tires, unlocking vehicles, and obtaining fuel for a small fee.

To request 24-hour emergency assistance, call extension 7223. To schedule an appointment for an educational program, call extension 5484.

For emergencies, dial 911 from any campus telephone.

Student Campus Patrol

A student escort service operates 5 p.m. to 1 a.m. seven days a week for the safety of female students walking alone on campus during the evenings. By calling extension 7283, an escort will come to the student's location and accompany the student to any campus building or parking lot.
Emergency Phones

Yellow or red emergency phones are directly connected to the UA Police Department. These phones are strategically located throughout campus pedestrian walkways and inside parking decks. Police respond to the lifting of any emergency phone receiver, even if no words are spoken.

Outdoor security phones are at the main entrances of all campus residence halls. UA Police and other campus numbers can be dialed on these phones. If using an off-campus phone, dial 972 before the campus extension.

Campus Buildings

Most University academic facilities are open to the public from 7 a.m. until the latest evening classes let out. Administrative buildings are generally locked at 5 p.m. When the University is closed, all buildings are locked and may be opened only by authorized personnel.

Health and Safety

Members of the Department of Environmental and Occupational Health and Safety routinely inspect the campus for environmental and safety concerns. The Department of Physical Facilities maintains University buildings and grounds and regularly inspects facilities and promptly makes repairs to ensure safety and security. University Police work with both units to respond to reports of potential safety and security hazards, such as broken windows and locks. UA police also work with physical facilities personnel to help maintain adequate exterior lighting and safe landscaping practices.

Personal Responsibility

The cooperation and involvement of students, faculty, and staff in any campus safety program is absolutely necessary. All must assume responsibility for their own safety and security of their property by following simple, common sense precautions. For example, although the campus is well-lighted, everyone should confine their movements to well-traveled areas. There is safety in numbers, and everyone should walk with a companion or with a group at night. Valuables should be marked with a personal identification number in case of loss or theft. Bicycles should be properly secured when not in use. Automobiles should be locked at all times. Valuables and purses should never be lying in view in a car but should be locked in the car trunk for safekeeping.

Crime Statistics

The University of Akron Police Department prepares monthly statistics for the Federal Bureau of Investigation under the Uniform Crime Reporting (UCR) program. The annual numbers of property stolen on campus are reported nationwide through the National Crime Information Center. A LEADS computer terminal at the police station dispatch center allows information to be exchanged with law enforcement agencies across the United States and Canada.

The following statistics are from the University Uniform Crime Reports of the past five calendar years. The statistics under Off-campus (O.C.) are crimes reported to the City of Akron Police Department that occurred at University properties off campus.

<table>
<thead>
<tr>
<th>CRIME</th>
<th>92 O.C. 92</th>
<th>93 O.C. 93</th>
<th>94 O.C. 94</th>
<th>95 O.C. 95</th>
<th>96 O.C. 96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rape</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Robbery</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Aggravated Assault</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Burglary</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Forcible Entry</td>
<td>2</td>
<td>33</td>
<td>110</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Unlawful Entry (in forc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Attempted Forcible Entry</td>
<td>0</td>
<td>11</td>
<td>7</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Burglary Total</td>
<td>2</td>
<td>49</td>
<td>265</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Theft</td>
<td>0</td>
<td>183</td>
<td>17</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Under $50</td>
<td>0</td>
<td>183</td>
<td>17</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>$50-$999</td>
<td>100</td>
<td>139</td>
<td>16</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>$1000 and over</td>
<td>1</td>
<td>3</td>
<td>16</td>
<td>0</td>
<td>150</td>
</tr>
<tr>
<td>Theft Total</td>
<td>2</td>
<td>492</td>
<td>51</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>Motor Vehicle Theft</td>
<td>0</td>
<td>7</td>
<td>19</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>Arson</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>10</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>NUMBER OF ARRESTS</th>
<th>92 O.C. 92</th>
<th>93 O.C. 93</th>
<th>94 O.C. 94</th>
<th>95 O.C. 95</th>
<th>96 O.C. 96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquor Law Violations</td>
<td>35</td>
<td>0</td>
<td>54</td>
<td>52</td>
<td>54</td>
</tr>
<tr>
<td>Drug Abuse Violations</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Weapons Possession</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

NOTE: Off-campus statistics previous to 1996 reflect all activity in areas surrounding the University, including incidents not directly related to University functions.

EMERGENCY PHONE NUMBERS

Call extension 911 on campus to reach UA police immediately.

Police..........................................................7123
Campus Patrol..............................................7263
(Police Nonemergency)..6123
Environmental and Occupational Health and Safety..........................6866
Fire............................................................911
EMS/Medical..................................................911

These emergency numbers are monitored 24 hours a day if calling from an off-campus phone, dial 972 and then the four-digit number you wish to reach. Use 911 for emergencies when dialing from all campus extensions.
Graduate School

Charles M. Dye, Ph.D., Dean; Latthardus Goggin, Ph.D., Associate Dean; Doli G. Markovich, B.A., Coordinator of the Graduate School; Karen L. Caldwell, Secretary to the Dean and Coordinator of Graduate Financial Aid; Virginia K. Donnelly, B.A., Degree Completion Coordinator; Brenda J. Henvy, Admissions Coordinator; Heather A. Blake, B.S., M.S., Receptionist.

OBJECTIVES

The purpose of the Graduate School is to provide a quality program of education by the following means:

- Advanced courses in various fields of knowledge beyond the baccalaureate level.
- Opportunities to develop and apply research techniques and to use the resources appropriate to various graduate programs.
- Advancement of student's knowledge for the benefit of mankind through the efforts of its faculty and students.

Nature of Graduate Education

Graduate education involves the extension of knowledge. However, it is by no means a mere continuation of undergraduate study. At its best, graduate education is characterized by an able and enthusiastic advanced student who joins faculty leaders to form a community of scholars dedicated to the common pursuit of truth. Critical analysis, independence of thought, originality of method, intensity of purpose, freedom from bias, thoroughness of inquiry, keenness of perception and vital creativity combine to produce in the successful student both the professional competence and the breadth of understanding essential to leadership in many areas of human endeavor.

History of the Graduate School

Graduate study began a few years after Buchtel College opened its doors, and the first earned master's degree was conferred in 1882. The College of Education awarded its first master's degree in 1924, the Colleges of Engineering and Business Administration in 1958, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1979. The Department of Communicative Disorders (previously the Department of Speech), now housed in the College of Fine and Applied Arts, was formerly a part of the Buchtel College of Arts and Sciences and conferred a master's degree in 1963. The first earned doctoral degrees were conferred in 1959. Professor Charles Bueger was appointed first dean of graduate work in 1933, and he continued in that capacity until 1960. Professor Ernest H. Cherington, Jr. served as director of graduate studies from 1955 to 1960 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brinnell was appointed dean of Graduate Studies and Research in 1967, being succeeded in 1968 by Dr. Edwin L. Lively, Dr. Clazborne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. Dr. Joseph M. Varon, associate dean of Graduate Studies and Research, was administrative head of the Graduate School during the 1977-78 academic year. Dr. Alan N. Gent was appointed dean of Graduate Studies and Research in 1978 and served in that capacity until 1986. Dr. Joseph M. Varon served as acting dean of Graduate Studies and Research from 1986 until 1989. In 1989 Dr. Patricia L. Carroll became dean of the Graduate School. Dr. Charles M. Dye was named interim dean in 1993 and became the dean of the Graduate School in 1995.

The administrative functions of the Graduate School include establishment of suitable entrance requirements, admission of qualified students, maintenance of high-quality instruction and approval of graduate requirements for advanced degrees.

Graduate Programs

A qualified student who has completed the baccalaureate program with sufficiently high grades may continue studies through the University's Graduate School in a program leading to the master's degree as well as to the doctoral degree. An undergraduate student who qualifies may enroll in certain graduate-level classes and apply the credits earned to the total required for the baccalaureate degree. To receive graduate credit for the courses, however, the student must first be admitted to the Graduate School.

The Graduate School offers programs of advanced study leading to the degree of Doctor of Philosophy in chemistry, counseling psychology, elementary education, engineering (biomedical, chemical, civil, electrical, engineering applied mathematicians, mechanical, and polymer), guidance and counseling, history, polymer science, psychology, secondary education, sociology, and urban studies. The Doctor of Education degree is offered in educational administration. The Doctor of Philosophy program in sociology is a joint program with Kent State University. The Doctor of Philosophy program in urban studies is a joint program with Cleveland State University.

The school also offers programs of study leading to the master's degree with majors in the following areas: accounting, applied politics, audiology, biology, biochemistry, biostatistics, business administration, business education, economics, education (accounting, finance, health services administration, international business, management, marketing, materials management, and quality management, JD/MPA (joint program), chemical engineering, chemistry, civil engineering, communications, counseling, classroom guidance for teachers, community counseling, elementary school counseling, marriage and family therapy, secondary school counseling, counseling psychology, economics (labor and industrial relations), educational administration (administrative, supervisors, assistant, superintendent), elementary school administration, general administration, higher educational administration, school treasurer, secondary school administration, superintendent, supervisor), educational foundations (computer education, educational psychology, historical foundations, institutional media, and technology), social (philosophical foundations), electrical engineering, elementary education, engineering, engineering, electrical (composition), geography (urban planning), geology (earth science, engineering geology, environmental geology, geophysics), guidance and counseling, history, home economics and family ecology, child development, child life, clothing textiles (interiors, food science), management (human resources, information systems), mathematical sciences (applied mathematics, computer science, mathematics statistics), mechanical engineering, middle school education, modern languages (Spanish), multicultural education, music (dietary composition, education, history, literature, performance, theory), nursing (RN/MNS, nutrition/dietetics, outdoor education, physical education), national training for sports medicine, aviation physiology (flight training, fitness), physics, political science, polymer engineering, polymer science, psychology (applied cognitive aging, counseling, industrial/organizational, public administration and urban studies, JD/MPA joint program, public administration, urban studies), reading, social work, sociology, special education, speech-language pathology, taxation (JD/Tax joint program), technical education (administration, guidance, instructional technology, supervision, teaching, training), theatre arts (arts administration). In addition, the College of Education provides a year of study beyond the master's degree in the area of school supervision.

Several departments offer a limited amount of work which may be taken on the graduate level. Such courses may supplement the major program of study for students who do not wish to devote their entire attention to one field.

* Program pending approval of Ohio Board of Regents
* Degree name change pending approval of Ohio Board of Regents

Graduate Faculty and the Graduate Council

The graduate faculty is comprised of those members of the faculty who hold appointments at the rank of assistant professor or above and teach graduate courses, supervise theses and dissertations and are generally responsible for the graduate program at the University. They are appointed by the dean of the Graduate School after recommendation by the department, college dean and Graduate Council. Guidelines for recommendation and appointment include the following:

- Quality and experience in upper level and graduate level teaching.
- Possession of terminal degree in field.
- Scholarly publication record.
- Activity in research.
- Activity in profession or discipline.

The purpose of the graduate faculty is to encourage and contribute to the advancement of knowledge through instruction and research of highest quality, and to foster a spirit of inquiry and a high value on scholarship throughout the University. The graduate faculty recommends a student who has been nominated by the student's college faculty for the appropriate master's or doctoral degree.

Graduate Council is elected by the graduate faculty. Membership in the council present comprises includes two members from the College of Engineering, two members from the College of Business Administration, two members from the College of Education, four members from each of the Buchtel College of Arts and Sciences, two members from the College of Fine and Applied Arts, one member from the College of Nursing, one member from the College of Polymer Science and Polymer Engineering, and one student member elected yearly by the Graduate Students Council. Members serve three-year terms and may not succeed themselves. The dean of the Graduate School serves as chair of the graduate faculty and the Graduate Council.
The functions of the council include examination of proposed graduate programs and course offerings, recommendation of policy for all phases of graduate education, recommendation of persons for membership in the graduate faculty and advising and counseling the dean in administrative matters.

*An exclusive listing of graduate faculty and Graduate Council can be found in the "Directory" of the Graduate Bulletin*

### Graduate Student Government

All registered graduate students at the University are constituents of the Graduate Student Government (GSG). The government council consists of elected representatives from each of the graduate departments, an executive board of officers, and a faculty advisor.

The objectives of GSG are to govern graduate student affairs, represent graduate student sentiment, and promote interdepartmental social exchange and interaction between students. These objectives are met by appointing members to participate in various administrative committee meetings, such as the Faculty Senate, Graduate Council and Board of Trustees meetings.

Anyone wishing more information or anyone who wants to air a complaint, problem or suggestion concerning graduate students may contact the Graduate School or attend the bimonthly GSG meetings, where all graduate students are welcome.
SECTION TWO

General Information
General Information

REGULATIONS

Student Responsibility
A student assumes full responsibility for knowing the regulations and pertinent procedures of the Graduate School as set forth in this Bulletin. Normally, the degree requirements in effect at the time a student is admitted to a program will apply through graduation. However, if existing programs are revised, the student has the option of pursuing the revised program as long as all requirements in the revised program are met. Additional information pertaining to programs can be obtained from the appropriate department head.

Admission
Every person who desires to enroll in or audit any graduate credit course must be first admitted or approved by the Graduate School.

Applications for admission to the Graduate School should be submitted to the dean of the Graduate School at least six weeks before the start of the term for which admission is sought in order to allow adequate time for complete processing. All applications will be accepted after the University deadline for applications, which is usually about three weeks before the beginning of a term and is published in the Schedule of Classes. Some programs, such as nursing, counseling, and psychology, have earlier deadlines. Applicants should contact the departments for more detailed application information.

Each first-time application to the Graduate School must be accompanied by an application fee. The fee for domestic students is $25. The fee for international students is $50.

An official transcript from each college or university attended must also be received by the Graduate School before the application will be processed. This applies to the complete academic record, both undergraduate and graduate. Transcripts should be sent from the institutions attended directly to the Graduate School. The applicant is responsible for seeing that the above conditions are met by the deadlines for filing applications.

At records, including academic records from other institutions, become part of the official file and cannot be returned for any purpose. An offer of admission will normally be made to an applicant who meets all admission requirements. However, if it is recognized that staff, facilities, and other resources are limited, so the number of students accepted will vary among departments and from term to term.

An accepted student may begin graduate work in the fall, spring, or summer semester. The offer of admission is void, however, if the applicant does not register for courses within two years from the time of admission. An individual whose offer of admission has lapsed must submit a new application to be reconsidered.

The student is admitted only for the purpose of objective stated on the application for admission. A new request for admission must be filed when the original objective has been attained or when the student wishes to change objectives.

The admitted status terminates when the time limits have been exceeded or other conditions for continued admitted status have not been met.

No student will be admitted without approval and acceptance by a department within the University, but admission to a department does not necessarily imply admission to or candidacy for any graduate degree program in that department. Admission for graduate study in any program can only be granted by the dean of the Graduate School.

Nonaccredited American School Graduates
A student holding a baccalaureate degree from a nonaccredited American college or university, if otherwise qualified, is normally required to complete at least 10 semester credits of postbaccalaureate work at a 3.00 level before being considered for admission to the Graduate School. The accreditation status of the school at the time of the student's graduation shall apply. A student should consult with the department head in the major field to develop a postbaccalaureate program.

Transfer Students
A graduate student matriculated in the Graduate School of another college or university who wishes to transfer to The University of Akron to continue graduate education must be in good standing at the other school.

Entrance Qualifying Examinations
The use of examinations to determine admissibility to enter a graduate program or eligibility to continue in one is the prerogative of the departments offering graduate programs. The department has the right to select the examination and minimum acceptable level of performance. Information and procedure may be obtained from the head of the appropriate department.

Classification
All students are identified by the Graduate School as being in one of the following categories. Any change must be approved through the Graduate School.

- Full Admission may be granted to any student who demonstrates the ability to pursue a graduate degree and who has the equivalent of a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better or 3.00 for the last two years (64 semester credits or equivalent); or has an advanced degree (in any appropriate field) from an accredited college or university in or appropriate to the intended field; or holds a baccalaureate or master's degree from a foreign college or university with a class standing or its equivalent, plus satisfactory evidence of competence in English. Full admission may also be granted to applicants to the College of Business Administration who meet the college's admission requirements.

- Provisional Admission may be granted to a student upon recommendation of the department head and Graduate School. Provisional admission is for a person permitted to take workshops for graduate credit until additional information is obtained, but admission to a department does not necessarily imply admission to or candidacy for any graduate degree program.

- Deferred Admission may be granted to a person who desires to pursue a graduate degree, and whose record has been reviewed and determined to meet provisional admission standards. After completion of a postbaccalaureate program of study in an appropriate GPA, as prescribed by the department (usually two to five courses), the student may be reconsidered for full admission to the Graduate School. No graduate-level coursework can be taken by a student under the deferred admission status.

- Non-Degree Admission may be granted to a person who wishes to take particular courses but who is not working toward a graduate degree. This admission status permits a student to take up to 15 semester credits of graduate coursework. Graduate courses taken under this admission status may be applied later to a graduate degree program, but only when all requirements for full admission have been met.

- Special Workshop status is for a person permitted to take workshops for graduate credit without being admitted to Graduate School. Such permission is granted by the workshop director upon receipt of a signed statement of possession of a baccalaureate degree by theapplicant, and terminates upon completion of the workshop. A student admitted to special workshop status must apply through regular channels for any other category. A maximum of six workshop credits may be applied to degree work at a later date if the applicant is given full admission to the Graduate School.

- Transient status may be given to a person who is a regular student of another accredited university in good standing in a degree program at another accredited university and has written permission to enroll at The University of Akron. Such permission is valid only for the courses and semester specified, with a maximum of 10 semester credits allowable, and is subject to the approval of the instructor, department head, and Graduate School. A transient student is subject to the same rules and regulations as a regularly enrolled student of the University.

- Undergraduate status is for an undergraduate student at the University who may be granted permission to take one or more graduate-level courses if the following conditions are met:
  - senior standing;
  - overall grade-point average of 2.75 or better or 3.00 for the last two years.

  College of Business Administration students may be permitted to take additional courses if the following conditions are met:
  - a person holding an earned doctorate who desires to attend courses for the purpose of professional development.

  These courses may be taken by an undergraduate and applied later toward a graduate degree if the applicant is given full admission to the Graduate School.

- Postdoctoral status is divided into three categories:
  - a Fellow is a person holding an earned doctorate who is engaged in advanced research. A fellow shall be considered a guest of the University and provided space and use of facilities within limits of practical need of the undergraduate and graduate programs. Tuition and fees shall be collected if allowed under sponsoring contract for any courses the fellow may choose to take;
  - a Special is a person holding an earned doctorate who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, fee (if new student) and official transcript from the institution awarding the doctorate. This student will be treated as a regular graduate student subject to registration fees and program-degree requirements;
  - a Graduate student is a person holding an earned doctorate who desires to attend courses and seminars relevant to individual work or interest. A written application should be submitted to the dean of the Graduate School for each course to be taken, and approval of the instructor, department head, and college dean shall be obtained. A guest is welcome to
any course or seminar provided is available. Normally, space and facilities for research cannot be provided for a postdoctoral guest but special requests will be considered. A successful candidate will provide a full-time stipend of $15,000.

Course Load
A full load of coursework at the graduate level is normally 9-15 semester credits including a thesis. Full-time status is defined as a minimum of 9 semester credits; or as defined by the Internal Revenue Service for those students with graduate assistantships.

Registration
The responsibility for being properly registered with the student, who should consult with the assigned advisor in preparing a program of courses and research. A schedule of courses, hours, class location and registration procedures is obtainable from the registrar.

Financial Assistance
The University awards a number of graduate assistantships to qualified students. Assistantships are normally awarded for up to two years of master's study and up to four years of doctoral degree study. The assistantships provide stipends of $6,000 to $8,000 plus remission of tuition and fees. The stipend is divided into 12 equal payments paid over the academic year, including summer. Graduate assistants are required to work for the University through teaching, research, or administrative duties. For information and/or applications, contact the head of the department.

A number of fellowships sponsored by individual and governmental agencies are available in some departments. Stipends range from $1,000 up to $10,000. For information, contact the head of the department.

Information about student loans can be obtained from the Office of Student Financial Aid.

Additional information concerning financial aid policies is available in the Graduate Assistantship Handbook which can be obtained from the Graduate School.

International Students
The University of Akron welcomes international students and seeks to make their educational experience pleasant and meaningful. Each year, approximately 810 international students are admitted from 91 colleges pursuing studies and research at The University of Akron.

Admission
International students who wish to apply for admission should contact the International Admissions Office, Office of International Programs, The University of Akron, Akron, OH 44325-3706, telephone (330) 972-6949, fax (330) 972-6904, World Wide Web address: www.ukon.edu/.userService/Admissions/IMPA/WWW. Please be sure to request the necessary forms when requesting the admission application.

A student admitted to graduate study under any status at the University is expected to maintain a minimum grade point average of 3.00 (4.00 = A) at all times. A minimum grade point average of 3.00 is required for graduation. No more than six semester credits of "C-" or "D-" grades may be counted toward the degree.

Grades
A student admitted to graduate study under any status at the University is expected to maintain a minimum grade point average of 3.00 (4.00 = A) at all times. A minimum grade point average of 3.00 is required for graduation. No more than six semester credits of "C-" or "D-" grades may be counted toward the degree. Grades of "A+", "A", "B-", and "D+" are treated as "B" grades. No grades below "C-" may be counted toward a degree. Official academic records for graduate students are maintained with a grade-point system as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>D+</td>
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<td></td>
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<tr>
<td>D</td>
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<td></td>
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<td>CR</td>
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<td>Credit</td>
</tr>
<tr>
<td>NC</td>
<td>0.0</td>
<td>No credit</td>
</tr>
<tr>
<td>A/U/D</td>
<td>1.0</td>
<td>Audit</td>
</tr>
</tbody>
</table>

Costs, Financial Aid, and Medical Insurance
To cover tuition and living expenses for the 1997-98 academic year, international graduate students holding F-1 visas will need approximately $17,929. Additional costs for J-1 visa holders and student dependents are indicated on the DCF. Graduate students may request financial aid through fellowships and graduate assistantships. A graduate student interested in applying for this aid should request the necessary forms when requesting the admission application.

International Student Orientation
The required International Student Orientation takes place one week before classes begin and costs $45. The orientation dates will be mailed to students with their orientation letter and immigration documents.

Teaching Assistants
Applicants whose native language is not English and who expect to become teaching assistants, are also required to achieve a minimum score of 50 on the Test of Spoken English (TSE). This exam must be taken prior to functioning as a teaching assistant. Those for whom English is the native language and who expect to become a teaching assistant must demonstrate proficiency in English through departmental certification. Neither the TSE nor departmental certification is required for research or administrative assistants.

Note: International students are encouraged to contact the Office of International Programs directly with questions about housing, climate, insurance, or immigration regulations. Questions concerning degree programs should be directed to the appropriate academic department.

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:

3300/507 Middle English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. 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:

- 500-698 Master's-level courses
- 700-999 J.D.-level courses
- 1000-899 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 before registering for graduate credit.
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.

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

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

\[ \text{PI} - \text{Permanent Incomplete: Indicates that the student's instructor and the instructor's dean have for special reason authorized the change of an incomplete ("I") or an in progress ("IP") to a permanent incomplete ("PI").} \]

\[ \text{W} - \text{Withdrawal: Indicates that the student registered for the course but withdrew officially sometime after the second week of the term.} \]

\[ \text{NGR} - \text{No Grade Reported: Indicates that, at the time grades were processed for the present issue of the record, no grade had been reported by the instructor.} \]

\[ \text{INV} - \text{Invalid: Indicates the grade reported by the instructor for the course was improperly noted and thus unacceptable for proper processing.} \]

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 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.

Repeating Courses

Any graduate course may be repeated once for credit. However, the degree requirements shall be increased by the credit hour value of each course repeated. The hours and grades of both the original and the repeated section shall be used in computing the grade-point average. Required courses in which a "D" or "F" was received must be repeated.

Audit Policy

A student choosing to audit a course must be admitted and indicate audit at the time of registration. The student pays the enrolment 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.

Thesis and Dissertation Credits

Course number 699 will only be used for courses which indicate credit is being given for a master's thesis. 699 will only be used for courses which indicate credit is being given for a doctoral dissertation. No credit for 699 or 899 will be given unless the thesis or dissertation is completed.

Colloquia, Seminars and Workshops

**Colloquium** (credit/noncredit grading) - A course that normally involves group discussion or other activities based on assigned material. Grades are awarded based on a combination of assignments, tests and class participation.

**Seminar** (letter grades) - A course that normally involves group discussion or other activities based on assigned material. Grades are awarded based on a combination of assignments, tests and class participation, and may or may not be permitted to satisfy degree requirements.

**Workshop** (credit/noncredit grading) - A course that normally operates over a shorter period than a semester or a summer session. Workshops focus on a particular aspect or aspects of a field of study, require a combination of assignments, tests and class participation, and may or may not be permitted to satisfy degree requirements.

Probation and Dismissal

Any student whose grade-point average falls below 3.00 is no longer in good standing and will be placed on probation. In consultation with the college or department, as appropriate, the dean of the Graduate School will dismiss full-time students who do not return to good academic standing within two consecutive semesters (excluding summers) and part-time students who do not return to good academic standing within the attempting of 16 additional credits.

For the purpose of administration of the full-time and part-time provisions of this policy, full-time and part-time status are determined by the semester in which the student goes on probation. Full-time enrollment consists of nine or more graduate credits; part-time is less than nine graduate credits.

The dean of the Graduate School, with the approval of the relevant department head, may also dismiss anyone who fails to make satisfactory progress toward declared goals or who accumulates six or more "I" credits. The accumulation of six semester credits of "F" will result in mandatory dismissal.

A student dismissed from the Graduate School for academic reasons may not be readmitted for one calendar year, and then only if evidence for expecting satisfactory performance is submitted and found acceptable.

Commencement

Students earning graduate degrees are expected to participate in the commencement exercises. A degree candidate who has legitimate reasons for graduating "In Absentia" should make a written request to the registrar within the established dates and pay the designated fee.

Students must apply to graduate in August or any of completing degree requirements. Applications are filed with the Grada tion Office which observes the following deadlines:

- Spring graduation: September 15
- Fall graduation: May 15

Academic Dishonesty

Students at The University of Akron are an essential part of the academic community, and enjoy substantial freedom within the framework of the educational objectives of the institution. The freedom for inquiry, learning in a community so rich in diversity and achieving success toward our educational objectives requires high standards of academic integrity. Academic dishonesty has no place in an institution of advanced learning. The University community is governed by the policies and regulations contained within the Stu dent Code of Conduct available in the Office of Student Conduct, Gardner Student Center, 2nd floor, (330) 972-7521.

The University of Akron considers academic dishonesty an essential part of each student's personal and intellectual growth. Instances of academic dishonesty are addressed consistently. All members of the community contribute actively to building a strong reputation of academic excellence and integrity at The University of Akron.

It is each student's responsibility to know what constitutes academic dishonesty and to seek clarification directly from the instructor if necessary. Examples of academic dishonesty include, but are not limited to:

- Submission of an assignment that is the student's original work that is entirely or partly the work of another person.
- Failure to appropriately cite references from published or unpublished works or printed or printed materials.
- Unauthorized copying of an assignment in computer programming, or the unauthorized examination of a new of the computer, specifically during examinations.
- Possession and/or unauthorized use of tests, notes, books, calculators or formulas stored in calculators not authorized by the instructor during an examination.
- Providing and/or receiving information from another student other than the instructor by any verbal or written means.
- Observing or assisting another student's work.
- Violation of the procedure prescribed by the professor to protect the integrity of the examination.
- Cooperation with a person involved in academic misconduct.

A student who has been involved in academic dishonesty will be asked to meet with the course instructor. The matter can be resolved informally at the college level and an academic sanction can be imposed. If the student opposes the decision, he/she may appeal it to the College Dean.

A further discussion of these procedures and avenues for recourse can be found in the Graduate Procedures for Students available at the Graduate School, The Polsky Building, 415, and included in the Appendix of this Bulletin.
Ohio Residency Requirements

Payment of a non-resident 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 of the Ohio Revised Code

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.
5. 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.
6. Any institution of higher education charged with reporting student information, including residency determinations under this rule, shall receive, among other things, the submission of documentation regarding the sources of a student's actual financial support.

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 any of these or other 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 of 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 address.

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 qualifies to vote in Ohio;
   b. If a person is eligible to receive state welfare benefits;
   c. 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 another state or nation for the purpose 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 50 states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.
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 (under the provisions of Section C.1. of this rule) 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. Evidence of such determinations 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.
## Fees

All fees reflect charges in 1997-98 and are subject to change without notice. Application Fee (this fee is not refundable under any circumstances)

<table>
<thead>
<tr>
<th>Description</th>
<th>Domestic</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 credits per semester</td>
<td>$25</td>
<td>$50</td>
</tr>
<tr>
<td>13 credits and over per semester</td>
<td>$75.55 per semester</td>
<td></td>
</tr>
</tbody>
</table>

### Parking Permit Fee

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost per semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or more credits per semester</td>
<td>$75.00</td>
</tr>
<tr>
<td>41/2 or fewer credits per semester</td>
<td>$34.50</td>
</tr>
<tr>
<td>One summer session</td>
<td>$20.50</td>
</tr>
</tbody>
</table>

### Workshop Participants

$2 per day up to $16

### Graduation Fees

Each degree (except law) $30

### Other Fees

- **Thesis and binding** (payable at time of application for degree) binding per volume $9.50
- **Microfilming:** Ph.D., D.B.A., D. only (payable at time of application for degree) $60.00
- **Copyright Fee** (payable at time of application for degree if copyright is sought) $35
- **Course schedule change fee** (for each schedule change form processed) $5
- **Transcripts** (at more than one transcript of a student's academic record is ordered by a student at one time, the fee shall be $4 for the first transcript and $2 for each additional one.) $4
- **Graduate Student's Foreign Language Proficiency Exam** $50
- **Late Graduation Application Fee** $10
- **Late Registration Fee** $25

### Course Materials and Computing Fees:

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

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### College of Business Administration

All graduate-level courses in the College of Business Administration are assessed a $5 fee with the exception of the following courses:

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### College of Fine and Applied Arts

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>3200:501</td>
<td>Architectural Preparations</td>
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<tr>
<td>3200:502</td>
<td>Advanced Food Preparation</td>
<td>$5</td>
</tr>
<tr>
<td>3200:516</td>
<td>History of Furniture and Interiors I</td>
<td>$10</td>
</tr>
<tr>
<td>3200:519</td>
<td>History of Furniture and Interiors II</td>
<td>$10</td>
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<tr>
<td>3200:520</td>
<td>Experimental Techniques</td>
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<td>3200:522</td>
<td>Professional Image Analysis</td>
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<td>3200:624</td>
<td>Nutrition in the Life Cycle</td>
<td>$5</td>
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<td>3200:626</td>
<td>Advanced Textiles</td>
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<td>3200:632</td>
<td>Interiors, Textiles, and Product Analysis</td>
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<td>Principles and Practices of Interior Design</td>
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<td>History of Textile Costume to 1600</td>
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### Finance

**Financial Aid**

Financial aid programs were developed by the federal and state government agencies as well as by institutions of higher 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 recommends that students complete and submit the Free Application for Federal Student Aid (FAFSA) or the Renewal Application to the Federal Processor. Applications are available in January for the following school year. Inquiries may be directed to the Office of Student Financial Aid, Spier 119, 330-972-7032 or (800) 621-3847.
A graduate student who has already received a bachelor's degree can apply for the Federal Subsidized and Unsubsidized Stafford Loan, The Federal Pell Grant, Ohio Instructional Grant and Federal Supplemental Educational Opportunity Grant may not be received. Postbaccalaureate students may only apply for Subsidized and Unsubsidized Stafford Loans.

Installment Payment Plan
This plan is designed to spread registration and University housing fees into as many as four installments, two during a summer term depending on when the application is received. An Application Service Charge of $17 per contract for registration fees and $17 per contract for University housing fees is assessed for the Installment Payment Plan (IPP). 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 percent down payment is required with three follow-up installments at 20 percent, 25 percent and 25 percent respectively. Applications received after the fee deadline and up to the first day of classes will require a 50 percent down payment with two follow-up installments of 25 percent each. For summer terms, the down payment is 30 percent plus one installment at 70 percent or less, depending on the amount of direct application. If the direct application of financial aid for the fall or spring semester is greater than 30 percent and is used as a down payment, the remaining balance will be billed in one, two or three equal payments, depending on the amount of aid. Installments are billed monthly starting approximately 30 days after the start of classes.

Financial aid may be used to pay the down payment. If the amount of aid is greater than the required down payment, the entire aid amount must be used as the down payment. The remaining installment balance will be billed either in two or three equal payments, depending on the registration period.

Application forms are included with the Student Fee Invoice or may be obtained in Spicer Hall 105 or by calling (330) 972-5100.

Graduate Assistantships
Graduate assistantships may be available to graduate students whose applications are received by the published application deadline. The Graduate School reserves the right to refuse to make an award to any student, regardless of the qualifications of the student. All applications for graduate assistantships must be submitted by the published deadline.

International Students
An international 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, graduate assistantships, and some types of employment may be made.

Regulations Regarding Refunds
All fees, e.g., instructional, general, parking, etc., are subject to change without notice. Students shall be charged fees and/or tuition and other fees in accordance with the schedules adopted by the Board of Trustees. 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
Certain fees are subject to refund:

- General fee.
- Course materials and computing fee.
- Student parking fee (only if permit is returned).
- Student teaching fee.
- Laboratory fee.
- Residence hall fees (subject to special policy).

Amount of Refund
Amount of refund is to be determined in accordance with the following regulations and subject to course instructor/program signature requirements contained in the University's official withdrawal policy:

- In full
  - if the University cancels the course;
  - if the University does not permit the student to enroll or continue in the course;

- In part
  - less $5 per enrolled credit to a maximum of $50 if the student requests official withdrawal from all credit courses on or before the Sunday (midnight) which begins the second week of the enrolled term. (Note: if a semester begins other than on a Monday, the maximum refund period will extend to seven (7) days from the beginning of the semester. Example: semester begins on Tuesday, the maximum refund period will end at midnight on the following Monday)
  - If the student requests official withdrawal after the Sunday (midnight) which begins the second week of the fall or spring semesters, the following refund percentages apply:
    - During the second week of the semester: 70%
    - During the third week of the semester: 50%
    - During the fourth week of the semester: 30%
    - During the fifth week of the semester: 20%
    - Thereafter: 0%

- If the student requests official withdrawal after the Sunday (midnight) which begins the second week of the semester of any Summer Session the following refund percentages apply:
  - During the second week of the summer session: 40%
  - Thereafter: 0%

- Refunds for courses which have not been scheduled consistent with the standard 16-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 of the section (class, institute, or workshop) which have passed compared to the number of days said section has been scheduled to meet.

- If the student requests official withdrawal after the Sunday (midnight) which begins the second week of the semester of any Summer Session the following refund percentages apply:
  - During the second week of the summer session: 40%
  - Thereafter: 0%

- Refunds for courses which have not been scheduled consistent with the standard 16-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 of the section (class, institute, or workshop) which have passed compared to the number of days said section has been scheduled to meet.

- If the student requests official withdrawal after the Sunday (midnight) which begins the second week of the semester of any Summer Session the following refund percentages apply:
  - During the second week of the summer session: 40%
  - Thereafter: 0%

- If the student requests official withdrawal after the Sunday (midnight) which begins the second week of the semester of any Summer Session the following refund percentages apply:
  - During the second week of the summer session: 40%
  - Thereafter: 0%

- Refunds for courses which have not been scheduled consistent with the standard 16-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 of the section (class, institute, or workshop) which have passed compared to the number of days said section has been scheduled to meet.

Refund for Cancelled Classes
The University reserves the right to cancel a course should there be insufficient enrollment. A full refund will be mailed to the student as soon as possible.
Academic Requirements

MASTER’S DEGREE REQUIREMENTS

Admission

When a student is admitted to graduate study, an adviser is appointed by the head of the major department. A student who is academically qualified in general but deficient in course preparation may be required to make up the deficiencies at the postbaccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

Residence Requirements

There are no formal residence requirements for the master’s degree. A student may meet the degree requirements of the Graduate School and the department through either full-or part-time study.

Continuous Enrollment Requirements

There is no formal Graduate School continuous enrollment requirement for the master’s degree. Individual master’s programs, however, may require continuous enrollment. Students should consult their advisers about this requirement.

Time Limit

All requirements must be completed within six years after beginning graduate-level coursework at The University of Akron or elsewhere. Extension by up to one year may be granted in unusual circumstances by the dean of the Graduate School upon written request by the student and recommendation by the adviser and department head.

Credits

A minimum of 30 semester credits of graduate work is required in all master’s degree programs. This includes thesis credit. Some departments require more (see departmental requirements). A minimum of two-thirds of the total graduate credits required in any master’s program must be completed at the University. A maximum of six workshop credits may be applied to a master’s degree.

Transfer Credits

When a student is admitted to graduate study, an adviser is appointed by the head of the major department. A student who is academically qualified in general but deficient in course preparation may be required to make up the deficiencies at the postbaccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

Transfer Credits

When a student is admitted to graduate study, an adviser is appointed by the head of the major department. A student who is academically qualified in general but deficient in course preparation may be required to make up the deficiencies at the postbaccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

DOCTORAL DEGREE REQUIREMENTS*

A master’s degree is not a prerequisite for the doctorate, however, the first year of study after the baccalaureate will be substantially the same for both the master’s and doctoral student. Some programs admit students to doctoral programs directly after the bachelor’s degree; others require a master’s degree. No specific number or sequence of courses constitutes a doctoral program or assures attainment of the degree. A formal degree program consists of a combination of courses, seminars and individual study and research that meets the minimum requirements of the Graduate School and those of the constituent for each individual student.

Admission

Usually, a student is not officially considered as a doctoral student until completion of a master’s program or its equivalent and approval for full-time study. Department offering doctoral degree programs review each candidate carefully before recommending admission.

Residence Requirements

A doctoral student may meet the degree requirements of the Graduate School and department by full-time study or a combination of full- and part-time study. The minimum residence requirement for a doctoral candidate in a full program is at least two consecutive semesters of full-time study and involves the student in departmental activities. Full-time study is defined as 9-15 semester credits, except for graduate teaching and research assistantships for whom full-time study is specified by the assistantship agreements. The summer sessions may be counted for the minimum, but not the maximum, number of course credits that will be counted for the degree. A minimum grade-point average of 3.00 is required for graduation. A candidate for a doctoral degree must be in good standing to be advanced to candidacy.

The University of Akron
Continuous Enrollment Requirement

All students admitted to doctoral programs must register for a minimum of one graduate credit as approved by their advisers during each Fall and Spring semester. Individual departments may exceed this minimum requirement. Doctoral students shall consult their advisers about additional requirements. Master's programs may require continuous enrollment. Students should consult their advisers about this requirement.

Time Limit

All doctoral requirements must be completed within 10 years of starting coursework at The University of Akron or elsewhere. This refers to graduate work after receipt of a master's degree or the completion of 30 semester credits. Extensions of up to one year may be granted by the dean of the Graduate School under unusual circumstances.

Credits

A doctorate is conferred in recognition of high attainment and productive effort in a special field of learning as evidenced by the satisfactory completion of a prescribed program of study and research; and the successful passing of examinations covering the special field of study and the general field of which this subject is a part. Consequently, the emphasis is on mastery of the subject rather than a set number of credits. Doctoral programs generally encompass the equivalent of at least three years of full-time study at the graduate level. A minimum of 50 percent of the total credits above the baccalaureate required in each student's doctoral program must be completed at the University. A maximum of six work shop credits may be applied to a doctoral degree. Such credits must be relevant to the degree program, recommended by the student's adviser and approved by the dean of the Graduate School.

No graduate credit may be received for courses taken by examination or for 400-numbered courses previously taken at the 400-numbered course level as an undergraduate without advance approval from the dean of the Graduate School. *Repeat for change of grade* is not available at the graduate level.

Transfer Credits

Up to 50 percent of the total credits above the baccalaureate required in a doctoral program may be transferred from accredited colleges or universities. Departments and colleges may set more restrictive limits. The credits must be relevant to the student's academic program as determined by the student's academic department and must fall within the 10-year limited to complete degree requirements if beyond the master's degree. All credits transferred must be at the *A* or *B* level in graduate courses.

Credits transferred may come from a prior degree. No more than thirty semester credits may be transferred from a single master's degree. Credits earned in prior or concurrent programs at The University of Akron shall be treated in the same manner as credits earned elsewhere. A University of Akron student who seeks to enroll in courses elsewhere for transfer credit here must receive prior approval.

A student seeking transfer credit must have full admission and be in good standing at The University of Akron and at the school at which the credits were earned. Transfer credit shall not be recorded until a student has completed 12 semester credits at The University of Akron with a grade point average of 3.00 or better. Transfer credits from other institutions shall not be computed as part of a student's University of Akron grade point average.

Language Requirements

There is no University-wide foreign language requirement for the Ph.D. The student is required to demonstrate one of the following skills depending upon the particular program:

- Plan A: Reading knowledge, with the aid of a dictionary, of two approved foreign languages. At the discretion of the major department an average of "B" in the second year of a college-level course in a language will be accepted, as evidence of proficiency in reading knowledge for that language. English may be considered one of the approved foreign languages for a student whose first language is not English, and demonstrated competence in research technique (e.g., statistics and/or computer) may be substituted for one of the two foreign languages. Under the last option, each department should define competence and publicize.

- Plan B: Comprehensive knowledge of one approved foreign language, including reading without the aid of a dictionary and such additional requirements as the department may impose.

- Plan C: In certain doctoral programs (counseling and guidance, elementary education, engineering, psychology, secondary education, urban studies) the demonstration of competence in appropriate research skills may serve as a substitute for the foreign language requirements.

Optional Department Requirements

Each department may determine requirements for a doctoral student with regard to entrance examinations, qualifying examinations, preliminary or comprehensive examinations, and course sequences.

Advancement to Candidacy

A student should apply for advancement to candidacy after completion of one-half of the credits required for the degree in his or her program. A student must be fully admitted and in good standing to be advanced to candidacy.

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

Dissertation and Oral Defense

The ability to do independent research and demonstrate competence in scholarly writing must be demonstrated by the presentation of a dissertation on a topic related to the major subject. It should represent a significant contribution to knowledge, be presented in a scholarly manner, reveal the candidate's ability to do independent research and indicate experience in research techniques.

A doctoral dissertation committee supervises and approves the dissertation and administers an oral examination upon the dissertation and related areas of study. The examination is open to the graduate faculty. The dissertation and oral examination must be approved by the committee before the dissertation is submitted to the Graduate School. Two copies of the dissertation are due in the Graduate School at least three weeks prior to commencement. These copies must be signed by the advisor, department head and college dean prior to submission to the dean of the Graduate School. A manual titled Guidelines for Preparing a Thesis or Dissertation is available in the Graduate School and all copies of the dissertation must conform to those instructions.

Graduation

To be cleared for graduation, a candidate must have completed the academic program with a grade-point average of at least 3.00; been advanced to candidacy; submitted an approved dissertation and passed an oral examination; filed an application for graduation with the registrar; paid all applicable fees and met any other university and University requirements.
SECTION FOUR

Graduate Studies
Buchtel College of Arts and Sciences

Roger B. Creel, Ph.D., Dean
David C. Buchthal, Ph.D., Associate Dean
William A. Francis, Ph.D., Associate Dean

Mission Statement

The Buchtel College of Arts and Sciences serves the objectives of the University, which state 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 potentials. The college seeks to provide an appropriate environment for students to learn as much as they can and as much as they will. They are to unlearn 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 degree 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 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 (English, modern languages), Natural Sciences (biology, chemistry, geology, mathematical sciences, and physics), and Social Sciences (economics, geography and planning, history, political science, public administration and urban studies, psychology, sociology).

DOCTOR OF PHILOSOPHY DEGREE

The following programs leading to the Doctor of Philosophy degrees are offered in the Buchtel College of Arts and Sciences: the Doctor of Philosophy in Chemistry, the Doctor of Philosophy in Counseling Psychology, the Doctor of Philosophy in History, and the Doctor of Philosophy in Psychology. The Doctor of Philosophy in Sociology is offered jointly with Kent State University and the Department of Philosophy in Urban Studies with Cleveland State University.

Doctor of Philosophy in Chemistry

The Doctor of Philosophy in Chemistry is granted for high scholarly achievement in analytical, organic, inorganic, physical or biochemistry. Students with either a baccalaureate or master's degree may be admitted to the program. They must satisfy the following requirements to receive the degree:

- Complete a course of study designed in consultation with an adviser or advisory committee. This consists of the completion of at least 90 credits beyond the baccalaureate degree, including 24 credits of appropriate coursework.
- Complete monthly cumulative exam requirement.
- Complete oral exam requirement.

Doctor of Philosophy in Counseling Psychology

The University of Akron offers a doctoral program in Counseling Psychology. The program allows the student a choice of entry points through the Psychology Department of the Buchtel College of Arts and Sciences or through the Counseling and Special Education Department of the College of Education. Students in both departments are expected to attain a level of broad scientific competence in the core areas of psychology, the biological, social, cognitive-affective, and individual bases of human behavior. Practicum and internship experiences are also required of all students and range from field building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding the emphasis, orientation, and coursework for the Psychology Department entry is included below. Students receive exposure to both colleges through shared courseware and faculty involvement with dissertations. The Collaborative Program in Counseling Psychology is accredited by the American Psychological Association.

The Department of Psychology offers a five-year Counseling Psychology program leading to a doctorate degree and, in general, is geared toward students who hold a B.A. or B.S. in psychology. Program emphasis is strongly placed on a scientist-practitioner model of training. Beyond the basic core areas of psychology, students are expected to establish specific competencies in the areas of theory, research and practice of Counseling Psychology. Academic preparation includes theories of individual and group psychotherapy, supervision, diversity issues in counseling psychology, vocational development theory, testing theory and practice, research and statistics, and professional issues. Research and publication are greatly encouraged. Graduates typically seek out academic teaching, research and training positions, as well as positions in counseling centers and other mental health agencies.

Admission to the Collaborative Program in Counseling Psychology is handled through the department associated with the student's chosen entry point. Students must fulfill both Departmental and Graduate School admission requirements. Departures from the described program for Psychology Department entry may be made only with the approval of the Counseling Psychology Program faculty.

Requirements

The curriculum reflects the interdepartmental blend of the Collaborative Program in Counseling Psychology. Electives and other courses are to be planned along with the student's advisor.

Credits

- Psychology core courses (610, 620, 630, 640, 650) 10
- Counseling psychology core courses (707, 710, 711, 712, 713, 714, 715, 717, 718, 750) 34
- Practicum sequence (671, 672, 673, 795 [4-4], 796 [4-4]) 26
- Advanced Psychological Tests and Measures (750) 4
- Electives (minimum) 6
- A statistics sequence that may be substituted for the doctoral language requirement 8
- Thesis credits (minimum) 1
- Dissertation credits (minimum) 12

- The comprehensive written examination is prepared, administered and graded by program faculty. At least one faculty member from each department participates in the oral portion of the comprehensive examination.
- Dissertation—at least one faculty member from each department is required on the student's dissertation committee.
- Internship—2,000 hours postmaster's with 1,600 hours over no more than two years. The internship site must be approved in advance by the Collaborative Program Internship Committee.
- Students must maintain a 3.50 GPA in their course work each year in the Department of Psychology.

Doctor of Philosophy in History

The Doctor of Philosophy in History is granted primarily for high scholarly achievement in four fields of study selected by the student and for demonstrations of ability to pursue independent research. Each student must:

- Fulfill admission requirements of the School.

The Graduate Committee of the History Department will consider an applicant for admission if a person has a Master's degree or the equivalent and a grade-point average of 3.3 or better at the M.A. level from an accredited institution. Those holding a Master's degree from The University of Akron or other accredited institution should not assume that they will automatically be admitted to doctoral studies. In
addition to the application made to the Graduate School of The University of Akron, the student must submit to the History Department the following materials:

- a personal statement of reasons for wishing to undertake doctoral study and the fields of study the student wishes to pursue;
- three letters of recommendation from former professors;
- a writing sample, preferably a seminar paper or other comparable scholarly work;
- scores on the Graduate Record Examination, General Aptitude Test;
- evidence of a reading knowledge of one foreign language or knowledge of an acceptable cognate field. Those whose native language is not English must demonstrate proficiency in English.

The History Department does not encourage applications for the doctoral program from students who have received both B.A. and M.A. degrees from The University of Akron. Special circumstances may warrant consideration; however, the Graduate Committee reserves the right to judge applications on their own merit.

- Complete studies selected by the student in consultation with an advisory committee, including:
  - completion of 60 credits beyond master's degree requirements, including dissertation credit. Courses at the 500 level in the student's major and dissertation fields will not be counted toward the degree, and only 42 hours of 500-level courses in the student's secondary fields will be counted;
  - fulfillment of major course requirements (majors are defined in the student's primary field of interest or specialization).
  - attainment of a graduate grade-point average (GPA) of 3.5.
- A reading knowledge of two languages will be required. With the approval of the student's doctoral committee and the Graduate Committee, the student may substitute a cognate field for one of the required languages, when it seems appropriate for the student's general program.
- Complete all general requirements for the Doctor of Philosophy degree.

Doctor of Philosophy in Psychology

The Department of Psychology offers a doctoral degree in psychology with specialization in either industrial/organizational psychology or applied cognitive aging psychology. A degree will be awarded to a student who, besides fulfilling the general requirements, has met the following specific requirements:

- Fulfill admission requirements of the Graduate School and department requirements as follows:
  - completion of master's degree or equivalent
  - completion of master's core courses or equivalent
  - attainment of a graduate grade-point average (GPA) of 3.25
  - completion of Graduate Record Examination Aptitude and Advanced Psychology Test;
  - securing of three letters of recommendation
- Major field:
  - a minimum of 90 graduate credits including a 30-credit master's program. A student may be required to complete additional credits beyond the 90 minimum credit requirement;
  - completion of Ph.D. core courses in the student's specialty area, industrial/organizational or applied cognitive aging. Core courses are specified in the Department of Psychology Graduate Student Manual. The student is required to maintain a 3.5 GPA in core courses and overall courses;
  - completion of additional required and elective courses to be planned in consultation with the student's faculty advisor and subject to approval by the industrial/organizational or applied cognitive aging committees;
- Written comprehensive examinations:
  - satisfactory performance on doctoral written and oral comprehensive examinations in the student's major area of industrial/organizational psychology or applied cognitive aging refer to the department's graduate student manual;
- Dissertation research:
  - completion of 3750:999 Doctoral Dissertation (minimum 12 credits),
  - satisfactory performance on final examination and defense of dissertation research.
- Other requirements:
  - refer to the department's graduate student manual for other requirements or guidelines.
  - complete and fulfill general doctoral degree requirements of the Graduate School.

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

Doctor of Philosophy in Sociology

Admission to the Program

A student may apply with a completed master's degree or equivalent or after at least one year of full-time coursework or equivalent (11 credits) in the sociology master's program at The University of Akron. The coursework must include the master's degree core sequence. Scores from the Graduate Record Examination (GRE) are required as part of the doctoral application. Admission is limited to students whose records clearly indicate both scholarly and research potential.

Degree Requirements (for a student admitted with the master's degree or equivalent)

In addition to meeting the general requirements of the Graduate School, a student working toward the Doctor of Philosophy in Sociology must meet the following requirements:

- Take two courses that will not count toward a specialization in social psychology, statistics, and applied cognitive aging committees:
  - 3550:631 Social Psychology
  - 3550:645 Social Organization
- Take two doctoral-level courses in theory. These courses are to be selected from the predetermined group of courses (see Department of Sociology Graduate Student Handbook).
- Complete two 300-level courses in methods/statistics. These courses are to be selected from the predetermined group of courses (see department's graduate student handbook).
- Complete a specialty of at least 15 credits.
- Complete a minimum total of 30 credits in coursework.
- Pass the doctoral comprehensive examination(s). This examination is given in the specialty area and will include an evaluation of methods, theory, and statistics as relevant to the specialty area.
- Fulfill residency requirements of the Graduate School.
- Complete foreign language requirement by one of four sequences as detailed in the department's graduate student handbook:
  - foreign language
  - computer science
  - statistics
  - philosophy
- Register for a minimum of 30 credits of dissertation credit; complete a dissertation and successfully defend it in an oral examination.

Degree Requirements (for a student admitted without the master's degree)

In addition to meeting the requirements for a student admitted with the master's degree, the student must meet the following requirements:

- Completion of the M.A. core coursework.
- Completion of a research practicum (three credits). This may be waived for the student who already has sufficient research experience.
- Completion of a minimum of 60 credits of graduate-level 6000 or higher coursework beyond the bachelor's degree.
Doctor of Philosophy in Urban Studies

The Department of Public Administration and Urban Studies of The University of Akron offers a program leading to the Ph.D. in Urban Studies (joint with Cleveland State University). Students admitted to the program may take courses at either campus, and all doctoral committees contain members from both universities.

The program is designed to train professionals interested in the areas of policy analysis and evaluation, public administration, and urban and regional planning for careers in both the public and private sectors.

Admission

Admission to the Ph.D. Program involves faculty consideration of all of the following criteria which, taken together, present evidence of the likelihood of success in advanced study:

• Grade point average from previous Master's Degree Program. Students will not be normally be admitted with a GPA below 3.5. Having a 3.5 GPA, however, is not sufficient, in itself, for admission.

• Graduate Record Examination General Test Scores. The applicant is expected to submit a score on both the verbal and quantitative portions of the GRE.

• Three letters of recommendation from persons familiar with the applicants recent performance and abilities.

• A sample of the student's written work. Generally, the should be a thesis or final project paper from the Master's Program. Students who did not have such a requirement in the Master's Program are free to submit several samples of written work — for example, term papers, professional reports, published articles.

• A personal statement from the applicant detailing area of intended specialization and career aspirations (form available in application packet). A student will be considered for admission only if faculty resources are available to the student's indicated area of specialization.

• Those whose native tongue is not English must also demonstrate proficiency in the English Language by scoring a minimum of 570 on the Test of English as Foreign Language (TOEFL) and submitting an acceptable score from the Test of Written English (TWE) and a minimum score of 220 on the Test of Spoken English (TSE).

A student may be required to appear before the Doctoral Committee before a decision is made on admission to the Program.

Entering students will also have successfully completed the following Master's level social science prerequisites (or equivalents) before formal admission:

- 3980:603 Basic Analytical Research
- 3980:601 Advanced Research and Statistical Methods
- 3980:611 Introduction to the Profession of Public Administration
- 3350:600 Introduction to Planning Theory
- 3980:641 Fiscal Analysis
- 3980:643 Introduction to Public Policy

The Doctoral Committee may also require an applicant to take an admission examination, either written or oral, or both. A student may be admitted to the doctoral program subject to completing graduate-level bridge-up coursework designed to make up deficiencies in previous coursework. Bridge-up coursework will not count toward the doctoral degree course requirements.

Degree Requirements

The Ph.D. Program in Urban Studies has a required core of four courses consisting of two courses in advanced quantitative methods and two courses in urban theory. In addition, students must complete a major consisting of 24 credit hours (eight courses), and a minor consisting of 12 courses (four credits). The major must be taken from one of the following specializations: Policy Analysis and Evaluation, Public Administration, and Urban and Regional Planning. The minor consists of an integrated set of courses offering a specialization in either a set of methodological tools such as advanced statistics, a body of theory, or an area of application such as health policy.

The doctoral major and minor can be completed through a combination of required courses, elective courses, and tutorials. The tutorials allow students to work in close cooperation with an individual faculty member to pursue research interests shared by the student and the faculty member.

Students must pass written and oral comprehensive examinations on the quantitative core courses and on their major area of specialization.

A minimum of 63 credits beyond the master's degree is required, 48 hours of coursework, and 15 hours of dissertation.

MASTER'S DEGREE

Programs of advanced study leading to the master's degree are offered by the departments of biology, chemistry, economics, English, geography, geology (earth science), history, mathematical sciences, modern languages (Spanish), physics, political science, psychology, sociology, and urban studies. Before undertaking such a program, the student must show that the general requirements for admission to the Graduate School have been met, and the standard requirements for an undergraduate major in the area of the proposed graduate specialty have been met or that the student has performed work which the department approves as equivalent to an undergraduate major.

Biology

Admission Requirements

• Possess the equivalent of a biology undergraduate major with a GPA of 3.00 or higher in biology courses.

• Submit three letters of recommendation.

• Submit scores for Graduate Record Examination (Aptitude and Advanced Biology Tests).

• Submit a letter of proposed area of specialization within biology.

• Non-active speakers of English must submit a TSE score of 220 or above (minimum score of 50 on TSE, revised 1995) to be considered for a graduate assistantship.

Master of Science

Thesis Option I

The program is primarily for the student who will pursue a research career, including the student who intends to enter a doctoral program in the biological sciences.

• Course work in addition to the master's research and seminars (must be approved by the student's advisory committee) - 24 credits.

• Research and thesis - minimum of 12 credits.

• Participation in seminars - a maximum of four credits.

• The student's advisory committee may require the demonstration of reading proficiency in a foreign language appropriate to the field of study.

A minor may be taken in approved graduate courses including education. Summer study at a biological station is available.

Thesis Option II

This program is intended for Medical Doctors and Doctors of Osteopathic Medicine who have graduated from an accredited U.S. medical school.

• Course work in addition to the master's research and seminars (must be approved by the graduate officer) - 15 credits (no transfer credits are allowed for this option).

• Research and thesis - minimum of 12 credits.

• Participation in seminars — a maximum of two credits.

Nonthesis Option

This program is designed exclusively for secondary school teachers for whom the M.S. degree is required by the state. The program is open only to applicants possessing a teaching certificate who have completed the College of Education and showing normal progress towards qualifying for a certificate.

The requirements are the same as the research option except that no thesis and research is undertaken, but a total of 40 credits of approved coursework (including a maximum of four credits for seminar participation) is required.

For additional details concerning admission standards, degree requirements, and selection of options, refer to the Department of Biology Graduate Student Guide.

Chemistry

Master of Science

• Chemistry Coursework — with the approval of the adviser, up to 12 credits may be taken in related areas — 24 credits.

• Research and thesis — six credits.

• Participation in departmental seminars.

• Demonstration of reading proficiency in a foreign language appropriate to the field of study prior to the last semester of enrollment.
Economics

Master of Arts

Thesis Option
A minimum of 30 credits of coursework including a thesis equivalent to six credits is required. At least 21 credits must be at the 600 level in economics. Thesis must be written in an area of specialization in which the individual has at least two courses.

Nonthesis Option
A minimum of 30 credits of coursework is required. At least 21 credits must be at the 600 level in economics. The individual must also specialize in an area.

Areas of Specialization:
- Economic Development and Planning
- Economic Theory and Policy
- Industrial Organization and Public Policy
- International Economics
- Labor and Industrial Relations
- Quantitative Methods

*These courses may be waived for the student who can demonstrate, in a qualifying exam, an adequate preparation in mathematics and statistics.

English

Master of Arts

Thesis Option
A minimum of 33 credits is required (27 credits of coursework and 6 credits of thesis). Of the 27 credits of coursework, 18 must be at the 600 level and 12 must be in literature or literary theory (exclusive of individual reading).

Nonthesis Option
A minimum of 36 credits is required, of which 24 must be at the 600 level and 24 must be in literature or literary theory (exclusive of individual reading).

Areas of Specialization:
- Chaucer
- History of the English Language
- Modern Linguistics
- Shakespearean Drama
- Bibliography
- Sociology

 Exceptions to these requirements may be approved with the permission of the graduate faculty and department head. Courses taken outside the department must be approved in writing by the student's advisor prior to enrollment.

Geography and Planning

Master of Arts in Geography

Thesis Option
A minimum of 36 graduate credit hours, including no more than 6 credits of 3350:698. At least 12 credit hours must be taken at the 600 level, excluding 3350:686 and 689.

Core Requirements - 12 credit hours (4 courses)
3350:581 Research Methods in Geography
3350:583 Spatial Analysis
3350:596 Field Research Methods
3350:687 History of Geographic Thought

Electives - 21 credit hours
Any course taken outside the Department must be approved in advance by the student's Graduate Adviser or the Department Chair.

Nonthesis Option
A minimum of 36 graduate credit hours, excluding no more than 6 credits of 3350:698. At least 12 credit hours must be taken at the 600 level, excluding 3350:686 and 689.

Core Requirements - 12 credit hours (4 courses)
3350:581 Research Methods in Geography
3350:583 Spatial Analysis
3350:596 Field Research Methods
3350:687 History of Geographic Thought

Electives - 21 credit hours
Any course taken outside the Department must be approved in advance by the student's Graduate Adviser or the Department Chair.

Other Available Courses for Both Options

Composition and Rhetoric:
- Theory of Rhetoric
- Scholarly Writing
- Seminar: Reading Theory

Linguistics:
- History of the English Language
- U.S. Dialects
- Grammatical Structures of Modern English
- Sociolinguistics
- Contextual Linguistics

Literature and Literary Theory:
- Any approved department offering at the 500 or 600 level.

Graduate Foreign Language Requirement for All Master's Degrees in English:
The language requirement for the M.A. in English and the M.A. in English: Alternate Track in Composition is as follows:
Demonstration of reading proficiency in a foreign language appropriate to English Studies. Completion of one junior or senior-level course in a foreign language (with a grade of "B" or better) will exempt the student from examination provided the course was taken no more than five years before the student began his or her graduate work.

Note: 3300:600 Teaching College Composition Practice is required for Teaching Assistants. This does not count toward the degree requirements.
Master of Science in Geography

- Minimum of 39 graduate hours, to include no more than 6 credits of 3350:689. At least 12 credit hours must be taken at the 600 level, excluding 3350:689 and 689.
- Core Required Courses - 15 credit hours
  - 3350:581 Research Methods in Geography and Planning
  - 3350:588 Spatial Analysis
  - 3380:596 Field Research Methods
  - 3350:697 History of Geographical Thought
  - 3450:680 Advanced Spatial Analysis

- Methods/Techniques Requirement
  At least 4 courses (12 credit hours from:
  - 3350:503 Computer Applications in Geography and Planning
  - 3350:505 Geographic Information Systems
  - 3350:542 Thematic Cartography
  - 3350:547 Introduction to Remote Sensing
  - 3350:548 Advanced Cartography
  - 3350:610 SEM: Spatial Analysis
  - 3350:637 Methods of Planning Analysis I

- Electives - 12 credit hours

Any course taken outside the department must be approved in advance by the student's Graduate Advisor or the Department Chair.

Master of Arts (Geography/Urban Planning)

- A total of 45 credits of coursework plus internship (3350:689) as follows:
  - Core Requirements
    - 3350:533 Introduction to Planning
    - 3350:506 Urban Land Use Analysis
    - 3350:581 Research Methods in Geography and Planning
    - 3380:583 Spatial Analysis
    - 3350:630 Planning Theory
    - 3350:631 Facilities Planning
    - 3350:632 Land Use Planning Law
    - 3350:637 Methods of Planning Analysis I
    - 3450:633 Methods of Planning Analysis II
    - 3350:639 Development of American Planning
  - Electives - 5 courses, with a concentration from one of the following groups.

Land Use and Transportation (any three)
- 3350:622 Transportation Systems Planning
- 3350:626 Industrial and Natural Site Location
- 3350:695 Soil and Water Field Studies
- 3350:680 Advanced Spatial Analysis

Cartography/Remote Sensing (any three)
- 3350:542 Thematic Cartography
- 3350:544 Applications in Cartography and Geographic Information Systems
- 3350:547 Introduction to Remote Sensing
- 3350:548 Advanced Cartography
- 3350:549 Advanced Remote Sensing

Comparative Planning (any three)
- 3350:600 World Metropolitan Areas
- 3350:605 Development Planning
- 3350:571 Medical Geography and Health Planning
- 3350:633 Comparative Planning
- 3350:680 Advanced Spatial Analysis

G.I.S. (any three)
- 3350:605 Geographic Information Systems
- 3350:542 Thematic Cartography
- 3350:547 Introduction to Remote Sensing
- 3350:548 Advanced Cartography
- 3350:680 Advanced Spatial Analysis

Geology

Master of Science

- Complete a minimum of 30 credits of which at least 10 credits shall be at the 600 level and no more than two in research problems and six in thesis research.
- In all geology M.S. degree programs except Engineering Geology, at least 22 graduate credits shall be geology courses.
- Proficiency examination at the beginning of program to determine any weaknesses in undergraduate preparation. The student who demonstrates a lack of basic knowledge will be required to have appropriate undergraduate courses. The student may not begin formal thesis work until he/she has successfully passed the proficiency examination and has corrected deficiencies from same. Formal thesis work includes thesis proposal and/or thesis research credits. Field camp can be taken for graduate credit; however, it will not count toward the 30 credits for the M.S. in the geology or geophysics options.

- Core Requirements
  - 3370:590 Seminar in Geology
  - 3370:699 Master's Thesis

- Pass comprehensive examination after completion of 18 credits. Examination may be attempted twice.
- Oral presentation and defense of thesis.

Degree Specialization

The program of each individual will be adapted to his/her career objectives.

Geology

Equivalents of the current geology core, cognate science and mathematics requirements for the University’s B.S. in geology are required.

Earth Science

Equivalents of the current geology courses for the University’s B.S. in geology are required. Course program will be selected to provide the student with a well-rounded background in lithosphere, hydrosphere and atmosphere. Those who will be teachers must take 3350:780 Seminar in Secondary Education: Earth Science, or equivalent.

Geophysics

Equivalents of the current geology, cognate science and mathematics requirements for the University’s B.S. in geophysics are required.

Engineering Geology

This program is for the graduate engineer and geologist who wishes to broaden expertise in the other field. The entering student who has some deficiencies in either engineering or geology may have to satisfy one or more of the following requirements while proceeding with graduate studies. A committee of engineering faculty will determine appropriate coursework on an individual basis.

- 3310:105 Introductory Physical Geology
- 3310:110 Geomorphology
- 3310:350 Structural Geology
- 3340:217 Georesources I
- 3340:218 Georesources II
- 3340:221 Structural Geology
- 3340:222 Introduction to Geodynamics
- 3340:223 Introduction to Geophysics
- 3350:233 Soil Mechanics
- 3350:314 Geotechnical Engineering

- Required courses:
  - Graduate Geology Courses
  - Graduate Engineering Courses

Environmental Geology

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

History

Master of Arts

- Students applying for admission to the M.A. program must have a minimum undergraduate grade-point average of 3.0. The applicant's average in history courses should be substantially higher. Applicants must also have completed at least 24 semester or 36 quarter hours in history courses at the undergraduate level. An application to the M.A. program consists of the following:
  - an application form;
  - a letter of intent, stating the applicant's reasons for wishing to pursue graduate work and the fields of history which the applicant intends to study;
  - scores on the Graduate Record Examination, General Aptitude Test;
  - a writing sample, preferably a research paper from a history class;
  - three letters of recommendation, preferably from faculty who know the applicant well;
  - Applicants whose native language is not English must also score at least 580 on the Test of English as a Written Language (TOEFL), at least 240 on the Test of English as a Spoken Language (TSE), and take the Test of Written English (TWE).

- Degree requirements include:
  - Satisfactory completion of a minimum of 30 credits of graduate study in history, of which only six may be in individual reading.
  - Concentrated study of three fields, two of which must be chosen from the following:
    - Ancient
    - Medieval
    - European, Renaissance through 1750
    - Latin America
    - East Asia
    - England and the Empire
    - History of Science
The third field must be chosen from the above history fields or from an approved cognate discipline.

The student must pass written examinations in two of the three fields. The third field requirement will be met by at least seven credits of coursework at the graduate level, completed with a GPA of 3.0.

- 3400:689 History

- Twenty-three hours of 600-level coursework, at least 16 credits of which must be in seminars. Seminars must be chosen to satisfy one of the following options.

**Option I**
Three reading seminars and one writing seminar, with the writing seminar paper read and approved by two faculty members.

**Option II**
Two reading and two writing seminar sequences under different professors with the writing seminar paper of the student’s choice read and approved by two faculty members.

**Option III**
Two reading seminars, one writing seminar and a thesis read and approved by two faculty members.

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**Mathematical Sciences**

**Master of Science – Mathematics**

Completion of a placement process prior to the beginning of classes in the student’s first semester in the program. This process will consist of a review by a graduate faculty subcommittee of the student’s competency in Advanced Calculus I and II (3450:521,2) and Abstract Algebra I (3450:510). If the student fails any part of this review, then that course will be added to the required courses for the student and the total number of credits required for the degree will reflect this.

- Core:
  - Two of the following three courses:
    - 3450:510 Advanced Linear Algebra
    - 3450:512 Abstract Algebra I
    - 3450:611 Topics in Algebra
  - And all of the following courses:
    - 3450:621 Real Analysis
    - 3450:623 Measure Theory
    - 3450:625 Analytic Function Theory
    - 3450:692 Seminar in Mathematics

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**Thesis Option (30-39 credits)**

In addition to the placement review and core requirements, 15 credits of 500/600-level courses in mathematics (3450, statistics (3460), or approved computer science (3460), and 2-4 credits in 3450:699. Master’s Thesis must be completed. Any graduate-level course may be substituted as an elective provided that this is approved beforehand by the student’s advisory committee.

- Nonthesis Option (33-42 credits)

In addition to the placement review and core requirements, 15 credits of 500/600-level courses in mathematics (3450, statistics (3460), or approved computer science (3460), must be completed. Any graduate-level course may be substituted as an elective provided that this is approved beforehand by the student’s advisory committee.

Successful completion of the comprehensive examinations in the two courses selected from among 3450:510, 512 or 611 and in the courses 3450:621, 622 and 625.

**Master of Science – Statistics**

- Entrance into the program will require the initial completion of the following prerequisites:
  - 3470:581 Applied Statistics (4 credits, or equivalent)
  - 3470:589 Math Concept for Statistics (4 credits, or 3450:521/622 Advanced Calculus III, three credits each, or equivalent)

- Core curriculum:
  - 3470:651 Probability and Statistics
  - 3470:652 Advanced Mathematical Statistics
  - 3470:665 Linear Models
  - 3470:663 Experimental Design
  - 3470:665 Regression
  - 3470:692 Seminar in Statistics

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**Thesis Option (30 credits of graduate work)**

In addition to the core curriculum, 9 credits in 500/600-level mathematical sciences courses and 2-4 credits in 3470:669 Master’s Thesis must be completed.
Master of Science – Computer Science

Admission Requirements
All applicants for admission to the graduate program in computer science must meet the university requirements for graduate admission as published in Section 3 of the Graduate Bulletin. In addition to these requirements, the applicant must also:

• submit 3 letters of recommendation from individuals capable of evaluating the applicant's potential for success in the program;
• have earned a baccalaureate degree in computer science or a related discipline from an accredited college or university with a GPA of 3.00 or higher in computer science and related courses;
• demonstrate proficiency in the areas of differential and integral calculus, probability and statistics, discrete mathematics, and knowledge of at least one high-level, general purpose programming language and;
• demonstrate proficiency in the areas of data structures, assembly language, computer organization, operating systems, and the theory of programming languages. A student deficient in one or more of these areas may be granted conditional admission.

The Graduate Record Examination (Aptitude and Advanced Computer Science Tests) is recommended.

Degree Requirements
The curriculum has been designed to follow the guidelines and recommendations of the Association for Computing Machinery for Master's Programs in Computer Science. Most full-time degree candidates admitted into the program will complete the degree requirements in two years. The thesis option requires 20 semester hours of graduate work while the nonthesis option requires 33.

Core Courses (required of all students):
Seven courses must be chosen from the following categories; two from each of categories A and B, and one from each of categories C, D, and E.

A. Programming Languages
B. Operating Systems and Computer Architecture
C. Theoretical Computer Science
D. Data and File Structures
E. Applications

• Complete at least one 2-course sequence from each of the following groups:
  Group 1: (526, 626), (540, 640), (557, 655), (565, 665)
  Group 2: (555, 655), (557, 657), (560, 660), (570, 670), (575, 675)
• 3460:692 Seminar in Computer Science. This seminar is an introduction to research in computer science. For thesis option students, it is the beginning of the thesis research.
• At least 20 credits must be taken at the 600 level.
• With prior consent, up to 2 credits of approved graduate level work outside the department may be substituted for elective courses in both the thesis and nonthesis options.
• A written comprehensive examination, taking the form suggested by the department, must be completed in the thesis or nonthesis option. The examination will cover four areas of computer science chosen by the student and the student's advisor. Two of the areas will be based on the two-course sequences listed in Option II above.

Thesis Option (30 credits of graduate work)
In addition to the core curriculum, 3-5 credits in approved 500/600 level departmental courses and 2-4 credits in 3460:699 Master's Thesis must be completed.

Non-thesis Option (33 credits of graduate work)
In addition to the core curriculum, 9-10 credits in approved 500/600 level departmental courses must be completed.

Coordinated Program
Coordinated Engineering Applied Mathematics program for the Doctor of Philosophy in Engineering degree between the College of Engineering and the Department of Mathematical Sciences
The faculty in the College of Engineering and the Department of Mathematical Sciences have agreed to provide a coordinated program, subject to the following conditions, for those graduate students who elect the interdisciplinary field of Engineering Applied Mathematics

Admission Requirements
Applicants for the Engineering Applied Mathematics Program must have their graduate application and credentials evaluated by one of the departments in the College of Engineering and the Department of Mathematical Sciences. The Admission Requirements for the Doctor of Philosophy in Engineering, as given in the Graduate Bulletin (see page 36, College of Engineering), shall apply to all applicants for the Engineering Applied Mathematics Program.

Physics

Master of Science
• Complete a minimum of 30 graduate credits of approved courses in physics. Up to six credits of graduate level electives outside the department may be included in the program. There is no foreign language requirement for this degree.
• A cumulative grade-point average of 3.00 or better for all graduate-level credits applicable toward the degree.

• Complete an approved program of courses which includes the following required courses:
  3450:651 Advanced Laboratory I, II
  3450:615 Electromagnetic Theory I
  3450:625 Quantum Mechanics I
  3450:641 Lagrangian Mechanics
  3450:661 Statistical Mechanics

A student preparing for further graduate work in a physical science or for academic or industrial employment should include the following courses in the graduate program:
  3450:651.2 Methods of Mathematical Physics I, II
  3450:616 Electromagnetic Theory II
  3450:626 Quantum Mechanics II

A student preparing for teaching secondary school science should include the following courses in the graduate program:
  3450:650 History of Physics
  3450:654 Energy and Environment
  3450:548 Digital Data Acquisition
  3450:590 Workshop (maximum credit)

A student must complete at least one of the following three options:
Option A: A written exam covering the field of physics at the advanced graduate level.
Option B: A formal report, based on an original research project, submitted in a form suitable for publication and approved by a physics faculty committee.
Option C: A master's thesis.

• Graduate research participation is strongly encouraged. Up to five credits may be earned in 3510:697 Graduate Research, upon the completion of a graduate research project. One additional credit may, upon approval by the department, be permitted in 3510:699 Master's Thesis for the completion of a master's thesis based on such research. A successful thesis may thus account for up to six of the total of 30 graduate credits required.

Political Science

Master of Arts
Admission
Admission is open to students who have completed a four-year undergraduate degree and who fulfill the admission requirements of the Graduate School. The Graduate Record Examination (GRE) is not required.

The Master of Arts in Political Science allows students to concentrate their study in one of four areas: American Politics, Comparative Politics, International Politics, or Political Theory.

Students may also work toward certificates in Applied Politics and Public Policy in conjunction with their graduate studies.

Degree Requirements
• Complete 30 credits of graduate work, including 18 credits at the 600 level.

Two required core courses:
  3790:600 Scope and Theory of Political Science
  3790:607 Research Methods in Political Science

Three additional departmental seminars — 9 credits. Neither Independent Research, Thesis, nor Internship is considered a graduate seminar.

Three additional credits at the 600 level.
Twelve additional credits at the graduate level.

• Pass a comprehensive written examination, covering one field (American Politics, Comparative Politics, International Politics, or Political Theory).

• Complete either of the following:
  A master's thesis, including six hours of thesis credit (3790:699) in preparation. These credits may be presented as part of the overall 30-credit requirement. The thesis topic and completed thesis must be approved by the student's thesis committee and the student must complete a successful oral defense of the thesis.
  A nonthesis option, which shall consist of two extended seminar papers approved by a department committee of three persons chosen by the student with the approval of the graduate adviser.
Master of Applied Politics*

The Master of Applied Politics, through the Ray C. Bliss Institute of Applied Politics, is one of the few programs in the United States focusing on practical politics. It is designed for students interested in efforts to influence political decisions. This includes activities to capture effective public office in partisan contests, influencing legislation, and political organization.

* Program pending approval by Ohio Board of Regents.

Admission

Admission is open to students who have completed a four-year undergraduate degree and who fulfill the admission requirements of the Graduate School. No specific field of undergraduate major is required for admission. The Graduate Record Examination (GRE) is not required. The program is designed to accommodate students taking course work on a part-time basis.

Degree Requirements

• Complete 39 credits of graduate work, including the following:
  - Core courses - 27 credits:
    3100:570 Campaign Management I 3
    3100:571 Campaign Management II 3
    3100:572 Campaign Finance 3
    3100:540 Survey Research Methods 3
    3100:680 Scope and Theory of Political Science 3
    3100:601 Research Methods in Political Science 3
    3100:695 Internship in Government and Politics 3
    3100:672 Seminar: Political Influence and Organizations 3
    3700:691 Advanced Communication Studies: Communication in Political Campaigns 3

• Core:
  - Three credits required; additional credits will be counted toward elective credit.

• Elective courses - 12 credits (6 credits must be at the 600-level) selected from the following courses:
  - Politics and the Media
  - Political Behavior and Electoral Politics
  - Voter Contact and Elections
  - American Interest Groups
  - American Political Parties
  - Seminar in Comparative Politics
  - Seminar in International Politics
  - Seminar: Policy Agendas and Decisions
  - Special Topics in Political Science (applied focus)
  - Theories of Argument and Persuasion

• Prepare an applied politics portfolio containing:
  - At least two major papers prepared for required courses.
  - An applied politics capstone project assigned by the student's advisor.
  - Pass an oral defense of the applied politics portfolio.

Psychology

Master of Arts

• Fulfill admission requirements of the Graduate School and the following departmental requirements:

  - equivalent of psychology undergraduate major including a general or introductory course, statistics course, and experimental psychology course;
  - GPA of 3.0 in psychology courses;
  - Graduate Record Examination, Ability and Advanced Psychology Test;
  - three letters of recommendation.

• Course requirements:

  - completion of a minimum of 30 credits of graduate psychology courses including the M.A. core courses or equivalents, specialty area required courses, and electives as specified in the department's graduate student manual;
  - a student is required to maintain at least a 3.5 grade-point average in M.A. core courses as well as overall.

• Other requirements:

  - refer to the Department of Psychology Graduate Student Manual for additional guidelines;
  - complete and fulfill general master's degree requirements of the Graduate School.

Thesis Option

Completion of a minimum of 39 credits of graduate work including thesis in industrial/organizational, counseling, or applied cognitive aging psychology (although most programs require more credits).

Nonthesis Option

Completion of a minimum of 37 credits of graduate work with no thesis required. Completion of coursework, practicum and examinations in either industrial/organizational, counseling or applied cognitive aging psychology (although most programs require more credits).

Public Administration and Urban Studies

Master of Arts in Urban Studies

Admission

Admission is open to students who have completed a four-year undergraduate degree whose academic records meet the standards required for admission to the Graduate School. No specific field of undergraduate major is required for admission. The GRE score is not required for admission.

Degree Requirements

• Core: 39 credits
  - Basic Quantitative Methods
  - Advanced Research and Statistical Methods
  - History of Urban Development
  - Urban Economic Growth and Development
  - Introduction to Public Policy
  - Master's Thesis (optional)

Basic Program

Complete 33 credits of coursework as follows:

• Core - 15-18 credits

• Approved electives - 15-18 credits

• 3 credits of approved electives may be substituted for thesis with approval of academic advisor.

Master of Public Administration (MPA)

The Program in Public Administration is specifically designed to prepare the student for a public service career in public management and administration as well as the management and administration of non-profit organizations. The program of study is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA).

Admission

Admission is open to students who have completed a four-year undergraduate degree, whose academic records meet the standards required for admission to the Graduate School. No specific field of undergraduate major is required for admission. The GRE score is not required for admission.

Degree Requirements

• The number of graduate credits required for the MPA will be as follows:
  - Master's Degree in Public Administration: 45 credits

  - Core requirements (36-39 credits):
    3980:600 Basic Quantitative Methods 3
    3980:601 Advanced Research and Statistical Methods 3
    3980:610 Legal Foundations of Public Administration 3
    3980:611 Introduction to the Profession of Public Administration 3
    3980:614 Introductory Public Policy 3
    3980:615 Public Organization Theory 3
    3980:616 Personnel Management in the Public Sector 3
    3980:640* Fiscal Analysis 3
    3980:642 Public Budgeting 3
    3980:643 Introduction to Public Policy 3
    3980:695*** Internship (may be repeated for a total of 6 credits) 3
    3980:699 Master's Thesis (optional) 3

  - and select 1 from the following 3 courses:
    3980:602 History of Urban Development 3
    3980:617 Leadership and Decision Making 3
    3980:671 Program Evaluation 3

*Students may take 3980:600 Economics of the Public Sector and 3350:600 Social and Local Public Finance to fulfill the requirements of 3980:640 Fiscal Analysis and 3980:643 Public Budgeting. Students must, however, take both 3250:606 and 3250:608, or both 3350:649 and 3980:642.

**Student must take either 3980:616 or 3980:671 in lieu of 3980:695. Students may also take either 3980:600 or 3350:600 in lieu of 3980:643.

***Students working full-time must satisfy internship without a field placement. See advisor for alternative requirement.
Any required course except 3850:699 Master's Thesis, may be waived on the basis of proficiency in the area covered by the course. The criteria for waiver considered by the department are:

- Completion of a comparable course in another department at the University.
- Transfer of course credit in a comparable course from another university.
- Proficiency in an area demonstrated by a group of courses or other work done in the area covered by the course.

Areas of Concentration:

- Public and Non-Profit Management
- Urban Theory and Administration
- Public Sector Economics and Financial Management
- Public Policy Analysis and Program Evaluation

- See advisor for suggested courses. Students are encouraged to construct a coherent set of courses that will contribute to more in-depth or multi-disciplinary knowledge of a given area of concentration.

Advanced Elective Courses (6-9 credits):

- 3250:639 Public Employee Labor Markets 3
- 3250:666 Seminar in Regional Economic Analysis and Development 3
- 3700:630 Seminar in National Policies 3
- 3700:641 Seminar in Intergovernmental Relations 3
- 3700:670 Seminar in the Administrative Process 3
- 3980:590 Workshop 1-3
- 3980:612 National Urban Policy 3
- 3980:613 Intergovernmental Management 3
- 3980:618 Citizen Participation 3
- 3980:620 Social Services Planning 3
- 3980:622 Urban Society and Service Systems 3
- 3980:622 Urban Planning and Health Care 3
- 3980:623 Public Works Administration 3
- 3980:636 Parks and Recreation 3
- 3980:641 Urban Economic Growth and Development 3
- 3980:650 Comparative Urban Systems 3
- 3980:670 Research for Futures Planning 3
- 3980:671 Program Evaluation in Urban Studies 3
- 3980:672 Alternative Urban Futures 3
- 3981:673 Computer Applications in Public Organizations 3
- 3981:674 Analytical Techniques for Public Administration 3
- 3980:680 Selected Topics in Urban Studies 3
- 3980:681 Selected Topics in Urban Studies 3
- 3990:697 Individual Studies 1-3

J.D./Master of Public Administration

The University offers a joint J.D. and Master of Public Administration program. The title is J.D./MPA.

To be accepted into the program, a student must meet the admission requirement of the School of Law, the Graduate School, and the Department of Public Administration and Urban Studies.

Degree Requirements

Seventy-six credits in law and 30 credits in public administration.

Under this program a student must take 43 credits of required law courses, 32 credits of law electives, and 30 credits of required public administration courses plus an internship of three credits. Internship is required of any student without professional administrative experience.

This program reduces the total existing credit hours of the School of Law and Public Administration by nine credit hours (from 96 to 76), while public administration requirements are reduced by 12 credit hours (from 42 to 30).

Sociology

Master of Arts

Thesis Option

Satisfactory completion of 32 semester credits of which at least 21 must be at the 600 level or higher in sociology or anthropology excluding 3850:699, 3850:697 and 3850:698. In meeting these requirements the student must:

- Complete five required core courses with at least a 3.00 grade-point average:
  - 3850:603 Sociological Research Methods 3
  - 3850:604 Social Research Design 3
  - 3850:617 Sociological Theory 3
  - 3850:631 Social Psychology 3
  - 3850:645 Social Organization 3
  - 3850:706 Multivariate Techniques in Sociology 3

- Complete at least six hours of thesis work (3850:699). No more than six credits will count toward the degree.

- Completion of master's thesis and successful oral defense of thesis.

Nonthesis Option

This degree is intended for the student who wants intensive substantive training in a specialized area.

Completion of 32 credits of graduate work with no more than six credits taken at the 500 level. In meeting these requirements the student must:

- Complete four required core courses with at least a 3.00 grade-point average:
  - 3850:603 Sociological Research Methods 3
  - 3850:604 Social Research Design 3
  - 3850:617 Sociological Theory 3
  - 3850:631 Social Psychology 3
  - 3850:645 Social Organization 3

- Completion of at least 15 credits in a contracted specialty area. This area must be defined in consultation with the student's adviser and approved by the Graduate Studies Committee. Courses from other departments may be taken to meet the specialty requirement.

- Pass an oral examination on the specialty area.

Anthropology

There is no graduate degree in anthropology. However, there are many graduate courses available. A student interested in taking such courses for graduate credit must be admitted to the Graduate School through an existing graduate program, or may apply for non-degree status through the Department of Sociology. The student should enroll in graduate courses only for specific preparation stemming from general anthropology. Inquiries should be directed to the graduate director in the Department of Sociology.

Spanish

Master of Arts

- Thirty-two semester credits of graduate work which may include a thesis amounting to four credits.
- Requirement: proficiency level in listening, comprehension, speaking, reading, and writing Spanish.
- Second language requirement: completion of 202 with a grade of at least "B" in another language, or a translation from another language. Choice of the second language will be left to the student in consultation with an adviser.
- Final comprehensive examinations: the candidate will be required to submit an essay, and pass an oral exam on the essay.
DOCTOR OF PHILOSOPHY IN ENGINEERING DEGREE

The Doctor of Philosophy in Engineering is an interdisciplinary doctoral program offered on a collegiate basis.

Admission Requirements

Applicants for the Doctor of Philosophy in Engineering must hold a bachelor’s degree from a program that is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology at the time of graduation, or provide satisfactory evidence of an equivalent academic background to the Dean of the College of Engineering.

Applicants with a master’s degree must have a cumulative graduate grade point average of at least 550.

Applicants whose native language is not English must have a TOEFL score of at least 550.

Applicants with a master’s degree must have a cumulative graduate grade point average of at least 3.5/4.0.

Applicants whose native language is not English must submit their score on the Test of Written English.

• Present three letters of recommendation, and official results of the GRE General Test.

• Present a Graduate School Application Form.

• Pass a departmental Qualifying Examination. The purpose of the qualifying examination is to determine admissibility to the doctoral program and any technical weakness.

• Identify an interdisciplinary field of study, a dissertation director, and an Interdisciplinary Doctoral Committee before completion of 18 credits of coursework.

• Complete a formal Plan of Study that is acceptable to the Interdisciplinary Doctoral Committee. The plan of study must have at least 48 credits of coursework, of which 42 credits must be at the 700 level, and of which 6 credits may be special topics or 400/500 level courses. At least 24 of these course credits must be completed at The University of Akron. The minimum total credit hours for the doctoral program is 96 credit hours.

• Satisfy the language requirement specified by the Interdisciplinary Doctoral Committee.

• Pass a Candidacy Examination. The purpose of the candidacy examination is to test the student’s ability to conduct independent research.

• Present an acceptable Dissertation Proposal that describes the proposed research to the Interdisciplinary Doctoral Committee.

A copy of the Ph.D. in Engineering Program Procedures may be obtained from the office of the Dean of the College of Engineering.

Interdisciplinary Fields of Study

The proposal to establish a doctoral program in the College of Engineering, which was approved by the Board of Trustees of The University of Akron and the Ohio Board of Regents in 1967-68, defines the four undergraduate departments, Chemical, Civil, Electrical, and Mechanical, as the basic disciplines for the interdisciplinary programs in Environmental Engineering, Material Science, Mechanical, Systems Engineering, and Transport Processes. The objectives of the proposal were to 1) allow doctoral students access to the infrastructure resources of the entire college, 2) reduce administrative costs, and 3) permit the interdisciplinary programs to adapt to the changing research and funding environment. Since the approval of the proposal, the interdisciplinary areas have expanded from the original five programs to ten interdisciplinary programs. These interdisciplinary programs are broadly defined as follows:

Environmental Engineering includes the study of water and air pollution, environmental health, chemical disposal, waste management, noise control, resource engineering, and appropriate kinds of urban planning.

Mechanics includes the theoretical and experimental study of the stresses, strains, and endurance of structures, machines and various materials, mechanics of solids, fluids, and composite materials.

Systems Engineering includes the scientific prediction, control, and evaluation of the performance of integrated operational systems, and interaction effects among the components of engineering systems. It includes system analysis and design, operations research, linear and dynamic programming.

Materials Science studies the materials from the physical, chemical, and engineering viewpoints. Its purpose is to develop a better understanding of the composition, properties, and performance of various materials, and to develop new materials, manufacturing methods, and applications.

Transport Processes include the theoretical and experimental study of the transfer of mass, energy, and power, as related to engineering systems and processes.

Biomedical Engineering studies the theoretical and experimental application of engineering principles to biomedical problems. Some typical areas of interest are signal and image processing, biomechanics, and biometrics.
Coordinated Engineering Applied Mathematics program for the Doctor of Philosophy in Engineering degree between the College of Engineering and the Department of Mathematical Sciences

The faculty in the College of Engineering and the Department of Mathematical Sciences have agreed to provide a coordinated program, subject to the following conditions, for those graduate students who elect the interdisciplinary field of Engineering Applied Mathematics.

Admission Requirements

Applicants for the Engineering Applied Mathematics Program must have their graduate application and credentials evaluated by one of the departments in the College of Engineering and the Department of Mathematical Sciences. The Admission Requirements for the Doctor of Philosophy in Engineering, as given in the Graduate Bulletin, shall apply to all applicants for the Engineering Applied Mathematics Program.

Degree Requirements

The applicable Degree Requirements for the Engineering Applied Mathematics Program are those given in the Graduate Bulletin under the section Doctor of Philosophy in Engineering. These degree requirements include passing a Qualifying Examination, obtaining a dissertation advisor, establishing an Interdisciplinary Doctoral Committee, completing a formal Plan of Study, satisfying the University's language and residency requirements, passing a Candidacy Examination, presenting an acceptable Dissertation Proposal, writing a dissertation, and successfully passing oral examinations.

Students in the Engineering Applied Mathematics Program must pass a departmental Qualifying Examination composed and administered by the participating faculty from the Department of Mathematical Sciences and the participating faculty from one of the four departments in the College of Engineering.

The Interdisciplinary Doctoral Committee shall consist of at least six members. It shall have an equal number of faculty with primary appointments in the College of Engineering and participating program faculty from the Department of Mathematical Sciences. The participating faculty from the Department of Mathematical Sciences must hold joint appointments in the College of Engineering.

Students seeking a bachelor of science degree in engineering shall take a minimum of 24 credits of bridging courses, of which 6 credits may be at the 500 level. Students with a bachelor's degree in engineering shall take:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450.312</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450.427</td>
<td>Introduction to Numerical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3450.438</td>
<td>Advanced Engineering Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>3450.439</td>
<td>Advanced Engineering Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>3450.421</td>
<td>Advanced Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>3450.422</td>
<td>Advanced Calculus II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

The student may substitute 3450.60, Introduction to Analysis, for Advanced Calculus I and Advanced Calculus II. These bridging courses may be taken concurrently with graduate courses in the Engineering Applied Mathematics Program and they must be completed in the first two academic years of study.

Graduate students who elect the Engineering Applied Mathematics Program may proceed directly from their baccalaureate degree to the doctoral degree.

Students participating in the Engineering Applied Mathematics Program must have 42 credit hours of 600/700 level courses, of which none are special topics courses, and 6 credits of special topics or 400/500 level courses. At least 24 credit hours of coursework must be from the College of Engineering and at least 24 credits of coursework must be from the Department of Mathematical Sciences.

Coordinated program for the Doctor of Philosophy in Engineering degree between The University of Akron and Youngstown State University.

The University of Akron and Youngstown State University are engaged in a coordinated program with the objective of facilitating graduate study by engineering students residing in proximity to Youngstown State University. This provides the opportunity and convenience of completing some of the requirements for the Doctor of Philosophy in Engineering at The University of Akron through joint counseling and enrollment at Youngstown State University.

Admission Requirements

When an engineering graduate student at Youngstown State University declares an interest in the joint doctoral program, the student shall prepare a letter of intent, with academic credentials, to the dean of engineering at Youngstown State University. If the dean of engineering at Youngstown State University finds the letter of intent and academic credentials, together with a recommendation, to the dean of engineering at The University of Akron. The dean of engineering at The University of Akron shall have the graduate faculty in the applicant's discipline evaluate the applicant's qualifications and make a recommendation to the dean of engineering at The University of Akron. The dean of engineering at The University of Akron shall have the graduate faculty in the applicant's discipline evaluate the applicant's qualifications and make a recommendation to the dean of engineering at The University of Akron.

One of the members of the Interdisciplinary Doctoral Committee for the joint doctoral program candidate shall be an engineering faculty member from Youngstown State University and normally would be the student's dissertation director, although this is not necessary. The faculty member from Youngstown State University shall have at least six years of engineering experience and normally would be the student's dissertation director, although this is not necessary.

One-half (24 credits) of the coursework and one-half (24 credits) of the research credits may be taken at Youngstown State University. The parity of courses is decided by the faculty or the Interdisciplinary Doctoral Committee when the student submits a proposed Plan of Study. At the Advancement to Candidacy, the Committee recommends official transfer of credits from Youngstown State University to The University of Akron.

Joint program for the M.D. and Doctor of Philosophy in Engineering degree between the College of Engineering at The University of Akron and the Northeast Ohio Universities College of Medicine.

The College of Engineering and NEOMED provide a coordinated program for those desiring both the M.D. and Doctor of Philosophy in Engineering degrees. This program integrates the knowledge and skills acquired by the student in each of the programs. Each individual coordinated degree program will be tailored to suit the background and research interests of the student. Additional information may be obtained from the Department of Biomedical Engineering at The University of Akron or NEOMED.

Admission Requirements

Applicants with a bachelor's or master's degree in a discipline other than engineering or in engineering will be required to meet the Admission Requirements for the Doctor of Philosophy Degree in Engineering. Applicants will be required to have completed the following courses and to have taken the MCAT prior to admission into the coordinated M.D. and Doctor of Philosophy in Engineering program:

- M.D. Principles of Chemistry I and II
- M.D. Organic Chemistry I and II
- M.D. Principles of Biology I and II
**Degree Requirements**

To obtain an M.D. degree from NEOUCOM and a Doctor of Philosophy degree in Engineering, the student must satisfy NEOUCOM’s degree requirements and the College of Engineering’s Doctor of Philosophy in Engineering Degree Requirements. This coordinated program does not change the degree requirements for either program.

**MASTER OF SCIENCE DEGREES**

The degrees of Master of Science in Chemical Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Mechanical Engineering, and Master of Science in Engineering are offered.

**Admission Requirements**

Applicants for any of these master of science programs must hold a bachelor’s degree from a program that is accredited by the Engineering Accreditation Commission. Applicants shall have completed coursework of which 18 credits must be from one of the four undergraduate disciplines listed below. These undergraduate courses may be taken at universities and colleges accredited by the appropriate regional accrediting agency. Applicants who do not satisfy the requirements for Full Admission may be granted Provisional Admission or Deferred Admission.

Applicants with a bachelor’s degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of physics, and must select and complete at least 24 credits of graduate coursework of which 18 credits must be from one of the four undergraduate disciplines listed below. These undergraduate engineering courses may be taken at universities and colleges accredited by the appropriate regional accrediting agency. Applicants who do not satisfy the requirements for Full Admission may be granted Provisional Admission or Deferred Admission.

Applicants with a bachelor’s degree must have an overall grade point average of 2.75 or better or have the Engineering Report approved by the Advisory Committee.

Applicants whose native language is not English must have a TOEFL score of at least 650, and also must submit their score on the Test of Written English (TWE).

Applicants who do not satisfy the requirements for Full Admission may be granted Provisional Admission or Deferred Admission.

Applicants for any of these master of science programs must hold a bachelor’s degree from a program that is accredited by the Engineering Accreditation Commission.

**Chemical Engineering Courses**

4200:325 Equilibrium Thermodynamics 4
4200:327 Transport Phenomena I 3
4200:322 Transport Phenomena II 3
4200:330 Chemical Reaction Engineering 3
4200:351 Fluid and Thermal Operations 3
4200:363 Mass Transfer Operations 3
4200:405 Process Control and Analysis 3
4200:441 Process Economics and Design 4

Total 26

**Civil Engineering Courses**

4300:306 Theory of Structures 3
4300:313 Soil Mechanics 3
4600:310 Fluid Mechanics 3
4300:322 Water Supply and Wastewater Disposal 3
4300:341 Hydraulics 3
4300:361 Transportation Engineering 3
4300:407 Steel Design 3
4300:408 Reinforced/Concrete Design 3

Total 25

**Electrical Engineering Courses**

4400:360 Physical Electronics 3
4400:361 Electronics 4
4400:393 Switching and Logic 4
4400:394 Energy Conversion 3
4400:395 Energy Conversion Lab 2
4400:445 Analog Communications 3
4400:453 Antenna Theory 3
4400:472 Control Systems II 4

Total 28

**Mechanical Engineering Courses**

4600:360 Thermodynamics I 4
4600:361 Thermodynamics II 3
4600:310 Fluid Mechanics 3
4600:315 Heat Transfer 3
4600:336 Analysis of Mechanical Components 5
4600:350 Systems Dynamics and Response 3

4600:380 Mechanical Metallurgy 2
4600:444 Fundamentals of Mechanical Vibrations 3
4600:441 Control System Design 3

Total 27

**Degree Requirements**

The University’s Academic Requirements (See Academic Requirements in this Graduate Bulletin) are in addition to the College of Engineering’s requirements and the department’s academic requirements. The following are the College of Engineering’s requirements.

- Identify a three-member Advisory Committee including a major advisor before completion of 9 credit hours of coursework.
- Complete a formal Plan of Study that is acceptable to the Advisory Committee with a minimum of 24 credit hours of coursework of which no more than 6 credits are special topics courses. The formal Plan of Study may be revised upon approval of the Advisory Committee.
- Successfully pass the “final” exam before the Advisory Committee, or have the Engineering Report approved by the Advisory Committee.

**Master of Science in Chemical Engineering**

**Thesis Option**

4200:600 Transport Phenomena 3
4200:610 Chemical Reaction Engineering 3
4200:810 Classical Thermodynamics 3
Chemical Engineering Electives* 6
Approved Electives 6
Approved Mathematics 6
Master’s Thesis 6

Total 30

**Nonthesis Option**

4200:620 Transport Phenomena 3
4200:610 Chemical Reaction Engineering 3
4200:810 Classical Thermodynamics 3
Chemical Engineering Electives* 6
Approved Electives 18
Approved Mathematics 3

Total 36

Chemical engineering students in both degree options are expected to attend and participate in the department’s seminars.

**Master of Science in Civil Engineering**

Areas of study in the department include structural mechanics, geotechnical, hydraulic, and environmental engineering.

**Thesis Option**

Civil Engineering Courses 15
Approved Mathematics or Science 3
Approved Electives 6
Master’s Thesis 6

Total 30

**Nonthesis Option**

Civil Engineering Courses 15
Approved Mathematics or Sciences 3
Approved Electives 12
Engineering Report 2

Total 32

**Master of Science in Electrical Engineering**

Areas of study in the department include computer engineering, control system engineering, power system engineering, electromagnetics, and related areas.

**Thesis Option**

Electrical Engineering Courses** 15
Approved Electives 6
Master’s Thesis 6

Total 30

**Nonthesis Option**

Electrical Engineering Courses** 16
Approved Mathematics 6
Approved Electives 9

Total 33

*The elective chemical engineering courses may not include more than three credits of 500 level courses.

**The required electrical engineering coursework of 18 credits may not include more than six credits of 500 level courses.
Electrical engineering students pursuing the nonthesis option must pass a graduate level oral comprehensive examination which may be taken after 24 credits have been completed.

**Master of Science in Mechanical Engineering**

Main areas of graduate study in mechanical engineering include systems and controls, engineering mechanics, and thermal-fluid sciences. Students in the department are encouraged to take at least one mechanical engineering course outside the main area of interest to develop some breadth in their graduate education.

**Thesis Option**

- Mechanical Engineering Courses* 15
- Approved Mathematics 3
- Approved Electives 6
- Master’s Thesis 6
- Total 30

**Nonthesis Option**

- Mechanical Engineering Courses* 15
- Approved Mathematics 3
- Approved Electives 12
- Engineering Report 2
- Total 32

**Master of Science in Engineering**

This program is intended for the student whose educational objectives cannot be met by the four departmental master of science programs or those who wish to specialize in biomedical engineering, polymer engineering, or engineering management. Except for students in biomedical engineering and polymer engineering, students should declare in writing to the Dean of Engineering of their intention to study toward the Master of Science in Engineering degree. Upon admission, the dean will appoint an advisory committee consisting of three faculty members who are selected from at least two different departments. The thesis must be successfully (no "fail" votes) defended before the Advisory Committee, or the engineering report must receive the approval of the Advisory Committee.

**Thesis Option**

- Engineering Courses 12
- Approved Mathematics or Science 3
- Approved Electives 9
- Master’s Thesis 6
- Total 30

**Nonthesis Option**

- Engineering Courses 18
- Approved Mathematics or Science 3
- Approved Electives 9
- Engineering Report 2
- Total 32

**Biomedical Engineering Specialization**

- 4800:601 Biomedical Instrumentation 4
- 4800:611 Biometry 3
- 3100:685 Physiology for Engineers and Lab 5
- Approved Electives 15
- Master’s Thesis 6
- Total 33

**Polymer Engineering Specialization**

- Polymer Engineering Core 12
- Polymer Engineering Electives 11
- Approved Engineering and Science Elective 3
- Thesis 6
- Total 32

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*The program is limited to not more than three 500-level courses in engineering. Not more than two of the 500-level courses can be applied to the 15 credits of mechanical engineering coursework.

**The specific courses for the Polymer Engineering Core Courses, Polymer Engineering electives, and Approved Engineering and Science Courses are listed under the College of Polymer Science and Polymer Engineering.

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**Engineering Management Specialization**

This is an evening program which is intended primarily for practicing engineers who are working full-time and wish to upgrade their engineering and management skills. The Engineering Management Report must be approved by the Advisory Committee, of which one member shall be from the College of Business Administration.

- Engineering Courses 21
- Management Courses 15
- Engineering Management Report 2
- Total 38

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000:601</td>
<td>Financial Accounting*</td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance**</td>
</tr>
<tr>
<td>6500:630</td>
<td>Management and Organizational Behavior*</td>
</tr>
<tr>
<td>6600:660</td>
<td>Marketing Concepts*</td>
</tr>
</tbody>
</table>

**Elective**

Choose three credits of 600 level College Administration courses.

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*More advanced graduate business courses shall be required of students who have completed similar undergraduate courses. This determination shall be made by the Assistant Dean and Director of Graduate Business Programs, College of Business Administration.

**6200:601 is a prerequisite for 6400:602.**
College of Education

Mission Statement

The University of Akron College of Education offers a comprehensive slate of programs for school and community professionals, with teacher education programs entitled "Educator as Decision Maker" as the cornerstone. Our faculty is a community of learners with wide-ranging specialties and strengths but firmly committed to a common goal: to prepare and support educators at all levels and across a range of school, community and agency settings for the challenges of the 21st century. The College holds primary responsibility within The University of Akron for producing educational personnel for Ohio schools and colleges, contributing to the positive reform of education, and strengthening the research and knowledge base of the discipline.

The College provides initial and advanced preparation and continuing professional development and support of educators from early childhood through adult. Educators include classroom teachers, teacher educators, and other personnel such as administrators, counselors, and school nurses. The College meets this comprehensive charge through teacher education programs as well as programs in counseling, technical education, athletic training for sports medicine, and a few teacher education program that are housed outside the College of Education.

DOCTOR OF PHILOSOPHY DEGREE

Programs leading to the Doctor of Philosophy degree in elementary education, secondary education, counseling psychology, and guidance and counseling are offered through the Department of Education. The degree will be awarded to the student who, in addition to fulfilling the general requirements of the Graduate School, has met the following specific requirements:

- Completion of the Miller Analogies Test and/or the Graduate Record Examination. (Check the general requirements for the Doctor of Philosophy degree.
- A minimum of 90 or 120 graduate credits (including a 20-credit master's program where applicable; Counseling Psychology and Counseling require a minimum of 120 credit hours, including the doctoral dissertation. A student considered deficient in any area may be required to take additional courses.
- Completion of a foundation studies program designed to prepare the student before specialization.
- Successful completion of a test in a language judged not to be the student's native tongue:
  - a student in the Department of Counseling and Special Education may elect to develop appropriate research skills prescribed by the adviser in lieu of the foreign language requirement;
  - a student in the Department of Elementary Education may elect to develop appropriate alternative research skills prescribed by the adviser, subject to review by the department head, depending upon the career goal of the student and upon the academic and/or scientific requirement of the dissertation in lieu of the foreign language requirement;
  - a student in the Department of Secondary Education may elect to develop appropriate research skills prescribed by the adviser, subject to review by the department head, in lieu of the foreign language requirement.
- Completion of at least eight credits in cognate area.
- Completion of final written and oral examinations in the student's major field of concentration.
- Completion of a dissertation comprising not more than 20 credits. The oral examination committee must be constituted of at least five full-time faculty members, one of whom must be from outside the department.
- Pass the general requirements for the Doctor Philosophy degree.

DOCTORAL PROGRAMS IN COUNSELING

Collaborative Ph.D. Program in Counseling Psychology

The Collaborative Program in Counseling Psychology allows the students a choice of entry options: one through the College of Education for students with a master's degree and one through the College of Arts and Sciences for students with a baccalaureate degree. Students in both tracks are required to attain a level of broad scientific competence in the core areas of psychology: the biological, social, cognitive/affective, and individual bases of human behavior. Counseling psychology coursework covers the special areas of theories of counseling and psychotherapy, supervision, vocational psychology, ethics, assessment, and research design. Practice and internship experiences are required of students in both tracks and range from skill building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Students receive exposure to both colleges through shared coursework and faculty involvement; with dissertations but must formally enter through one of the other colleges.

The American Psychological Association (APA) has conferred accreditation on the Ph.D. Program in Counseling Psychology.

Admission to the Collaborative Program in Counseling Psychology will be handled through the department associated with the student's chosen emphasis. Departures from the program may be made only with the approval of the counseling psychology program faculty. Students may be considered for admission to counseling psychology if they have a master's degree in counseling, guidance and counseling psychology, school psychology, or a related field:

- Psychology Core (3750/5600, 620, 630, 640) is required of all students.
- Students register for dual listed courses (3750/5600) under their home department code.
- The comprehensive written examination is prepared, administered, and graded by a Comprehensive Examination Committee composed of four faculty members, two from each track. At least one faculty member from each track participates in the oral portion of the Comprehensive Examination.
- Dissertation - at least one faculty member from each track is required on the student's dissertation committee.
- Internship - 2,000 hours post-master's with 1,700 hours over no more than two years. The internship site must be listed in the Association of Psychology Postdoctoral and Internship Centers (APPIC) Directory.

Language and residency requirements are to be completed in accordance with the guidelines from the Graduate College and student's home department.

Counseling and Special Education Track requirements:

Students may be considered for admission to the Counseling Psychology program through the Department of Counseling and Special Education if they have a master's degree in counseling, guidance and counseling psychology, school psychology or a related field.

Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100.640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>5600.543</td>
<td>Counseling Theory and Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>5600.545</td>
<td>Tests and Appraisal in Counseling</td>
<td>4</td>
</tr>
<tr>
<td>5600.547</td>
<td>Career Development and Counseling Across the Life</td>
<td>3</td>
</tr>
<tr>
<td>5600.561</td>
<td>Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>3750.610</td>
<td>Psychology Core 1</td>
<td>4</td>
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<tr>
<td>3750.620</td>
<td>Psychology Core 2</td>
<td>4</td>
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<tr>
<td>3750.630</td>
<td>Psychology Core 3</td>
<td>4</td>
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<tr>
<td>3750.640</td>
<td>Psychology Core 4</td>
<td>4</td>
</tr>
<tr>
<td>3750.702</td>
<td>Advanced Counseling Practicum</td>
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<tr>
<td>3750.707</td>
<td>Supervision in Counseling Psychology</td>
<td>3</td>
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<tr>
<td>3750.708</td>
<td>Supervision in Counseling Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3750.600.710</td>
<td>Theories of Counseling and Psychotherapy</td>
<td>4</td>
</tr>
<tr>
<td>3750.600.711</td>
<td>Vocational Behavior</td>
<td>4</td>
</tr>
<tr>
<td>3750.600.712</td>
<td>Principles and Practice of Intelligence Testing</td>
<td>4</td>
</tr>
<tr>
<td>3750.600.713</td>
<td>Professional, Ethical, and Legal Issues in Counseling Psychology</td>
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<tr>
<td>3750.600.714</td>
<td>Objective Personality Evaluation</td>
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<td>3750.600.715</td>
<td>Research Design in Counseling Psychology</td>
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<td>3750.610</td>
<td>Research Design in Counseling</td>
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<tr>
<td>3750.670</td>
<td>History and Systems in Psychology</td>
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<tr>
<td>3750.660.796</td>
<td>Counseling Psychology Practicum</td>
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<td>510.241</td>
<td>Statistics in Education</td>
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<td>510.431</td>
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<td>510.143</td>
<td>College of Education Foundation(s)</td>
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<td>3750.676.999</td>
<td>Electives</td>
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<td>5600.699</td>
<td>Doctoral Dissertation (minimum)</td>
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<td>NC</td>
<td>Internship</td>
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<tr>
<td>120</td>
<td>Minimum Total Credit Hours Required</td>
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</table>
Ph.D. in Guidance and Counseling

The doctoral program in Guidance and Counseling is designed for students who hold a master's degree in counseling or a related field. The program allows the student to choose three specialty areas: (a) Counselor Education; (b) Clinical Mental Health Counseling; and (c) Marriage and Family Therapy. Students in each specialty are expected to attain an advanced level of competence in the core areas of counseling, research, and their specialty. Practicum and internship experiences are required in each specialty. In addition, the cognitive and elective options allow students flexibility in designing a program that is consistent with their career goals. With the proper selection of courses, graduates of the program can meet the academic requirements for a Licensed Professional Clinical Counselor in Ohio. Graduates with a specialty in Marriage and Family Therapy with the proper selection of courses can meet the academic requirements for membership in the Amerikan Association for Marriage and Family Therapy.

The Graduate Record Examination (General Test) will be used as the qualifying examination.

The Ph.D. Program in Guidance and Counseling is accredited by the Council for Accreditation of Counseling and Related Education Programs (CACREP), a specialized accrediting body recognized by the Council on Postsecondary Education (COAP).

Ph.D. in Guidance and Counseling Requirements:

Master's Degree

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>520:780</td>
<td>Semi-Statistic Education</td>
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<tr>
<td>5100:743</td>
<td>Advanced Educational Statistics</td>
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<tr>
<td>5600:715</td>
<td>Research Design in Counseling I</td>
</tr>
<tr>
<td>5600:716</td>
<td>Research Design in Counseling II</td>
</tr>
</tbody>
</table>

Electives

(1) A major of 26 semester hours must be taken as an approved major.

(2) A cognate of 22 semester hours must be taken outside the College of Education and approved by the major advisor.

(3) A dissertation of 12 semester hours.

(4) A minimum of 80 semester hours must be taken after the student has been admitted into the doctoral program in guidance and counseling.

(5) A dissertation of 12 semester hours.

Course offerings are designed to present the required courses as well as those areas that will be explored in overcoming individual deficiencies and expanding the students' academic background. Basic minimum course requirements are in the following areas: (a) core, (b) teaching field, (c) professional education, and (d) cognate area. Three guidelines concerning these steps toward the degree are of particular significance.

- Written comprehensive should be taken after the completion of 60 hours of coursework and prior to the completion of 75 hours.
- Dissertation must be approved by the student's committee and reviewed by the dean of the College of Education.
- The complete program description may be obtained from the department head of elementary education.

DOCTOR OF PHILOSOPHY IN SECONDARY EDUCATION

The Department of Secondary Education offers a program leading to the Ph.D. degree. One option is designed for persons in public or private K-12 educational organizations.

An option in Higher Education Administration is also offered by the department. This is designed for persons who wish to pursue a career in college university or other post-secondary administrative positions. The program addresses such major institutional functions as academic administration, student services, finance, planning, development, and public relations. A student will have the opportunity to direct studies toward a particular career goal. A student may be admitted after either the bachelors or the masters degree.

Note: Applications for admission to the Higher Education Administration option of the Doctor of Education degree are not being accepted at this time.

- Minimum Requirements of the K-12 Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>5100:690</td>
<td>Philosophy of Social Science</td>
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<tr>
<td>5100:692</td>
<td>Philosophy of Education</td>
</tr>
<tr>
<td>5100:721</td>
<td>Curriculum and Instruction</td>
</tr>
<tr>
<td>5100:723</td>
<td>Teacher Education</td>
</tr>
<tr>
<td>5100:731</td>
<td>History of Education in American Society</td>
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<tr>
<td>5100:732</td>
<td>History of Philosophy of Higher Education</td>
</tr>
<tr>
<td>5100:733</td>
<td>Seminar: Social-Philosophical Foundations of Education</td>
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Foundation Studies Education - Doctoral Program Requirements

<table>
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<tr>
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<th>Course Title</th>
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<tr>
<td>5100:690</td>
<td>Philosophy of Social Science</td>
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<td>Curriculum and Instruction</td>
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</tr>
<tr>
<td>5100:733</td>
<td>Seminar: Social-Philosophical Foundations of Education</td>
</tr>
</tbody>
</table>

Department of Secondary Education

For further program details and specific admission requirements, contact the Department of Counseling and Special Education.
Research
5100:640 Techniques of Research 3
5100:341 Statistics in Education 3
5700:899 Doctoral Dissertation 15-20

*Counseling psychology students contact advisor for requirements.

Continuous Doctoral Program Enrollment

All students admitted to the doctoral program must register for a minimum of one semester hour of graduate credit as approved by their advisors during each fall and spring semester. Individual departments may exceed the minimum requirement. Doctoral students should consult their advisors about additional requirements.

MASTER'S DEGREE

Programs leading to the degree of M.A. in education, M.S. in education, and M.S. in technical education are offered.

The student who expects to earn the master's degree for advancement in the field of teaching must meet the general requirements for admission to the Graduate School and must be qualified to hold a standard teaching certificate. Exceptions to this latter requirement will be made for the qualified student who does not wish to teach or perform duties in the public schools provided the student presents or acquires an appropriate background of study or experience. The student who expects to earn the master's degree in guidance and administration also should have had successful teaching experience. A physical examination may be required if and when indicated. Any student who exhibits a deficiency in English or other skills may be required to correct it before recommendation for an advanced degree. The student must receive a pass grade on the relevant Master's Comprehensive Exam.

No more than six credits of workshops or institutes can be used to satisfy degree requirements.

The student must complete a minimum of nine credits in foundation studies in education:

- 5100:600 Philosophies of Education 3
- 5100:602 Comparative and International Education 3
- 5100:604 Seminar in the Cultural Foundations of Education 3
- 5100:620 Psychology of Instruction for Teaching and Learning 3
- 5100:624 Seminar: Educational Psychology 3
- 5100:640 Techniques of Research 3

*Students in some counseling programs may choose other options—see advisor

PROGRAMS

Counseling and Special Education

Selected program offerings in the Department of Counseling and Special Education are available to a person with or without a teaching certificate. Interdisciplinary programs offered lead to certification by the Ohio State Department of Education and to a master's degree. Program areas include counseling, school psychology, and special education. The person who meets program prerequisites and who has earned a master's degree may matriculate as a non-degree graduate student and pursue a program that leads in selected areas toward certification. The Graduate Record Examination (General Test) will be used as the qualifying examination in all Counseling master's programs. The Miller Analogies Test will be used as the qualifying examination in all Special Education master's programs. Admissions to the master's programs will be twice a year (application deadline of March 15 for summer and fall semesters and October 1 for spring semester).

The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation (COAR), has conferred accreditation on the Department of Counseling, Marriage, and Family Counseling programs.

Community Counseling

This course of study leads to eventual employment in community mental health centers and a wide variety of other community agencies. Note that a counselor license is usually required by most agencies. (Check counselor licensure elsewhere in this handbook.) Any changes in the agreed-upon program must be approved by the student's advisor.

- Foundations Courses (select one course from each area)
  - Behavioral Foundations
    - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - Humanistic Foundations
    - 5100:640 Seminar: Educational Psychology 3
  - Counseling and Family Development Across the Lifespan
    - 5600:648 Individual and Family Development: Across the Lifespan 3

- Required Departmental Courses
  - 5600:631 Elementary School Guidance 3
  - 5600:633 Secondary School Guidance 3
  - 5600:634 Career Development and Counseling Across the Lifespan 3
  - 5600:645 Tests and Appraisal in Counseling 4
  - 5600:660 Counseling Skills for Teachers 3
  - 5600:661 Seminar in School Counseling 3
  - 5600:666 Field Experience (must be taken before or concurrently with 663) 1
  - 5610:640 Developmental Characteristics of Exceptional Individuals 3
  - 5610:664 Education and Management Strategies for Parents of Exceptional Individuals 3
  - Minimum Department Hours Required 20

- Area of concentration

An area of concentration with a minimum of six (6) hours may be selected from one of the following areas (the student may, with advisor approval, propose an area of concentration not listed):

- Middle School Education
- Early Childhood Education
- School and Community Relations
- Curriculum and Instruction
- Physical Fitness and Well-Being
- Special Education
- Computers in Education
- Family Ecology
- Communicative Disorders
- Outdoor Education

Total Area of Concentration Hours Required 6
Minimum Semester Hours Required for Graduation 35
Behavioral Foundations

Humanistic Foundations

Behavioral Skills

- Three years of teaching experience. Any changes in the agreed-upon program must be approved by the student's advisor.

- Counseling Process (all required)

5600:651 Techniques of Counseling*

5600:653 Group Counseling

5600:675 Practicum in Counseling**

- Internship

5600:685 Internship in Counseling (minimum 6 hours)

Minimum Department Hours Required: 32-33

- Specialized Studies (required)

5600:620 Topical Seminar: Substance Abuse and Sexuality

- Electives (Select a minimum of 6 hours only with help of advisor)

3750:600 Personality

3750:620 Abnormal Psychology

3750:650 Psychological Disorders in Children

3750:655 Learning and Cognition

3750:660 Psychology Core II: Organizational, Social, Applied

3750:670 Psychology Core III: Developmental, Perceptual, Cognition

3750:700 Survey of Projective Techniques

3750:727 Psychology of Adolescence and Aging

3850:511 Social Interaction

3850:543 Industrial Sociology

5600:670 Topical Seminar

5600:684 Counseling and Personnel Services in Higher Education

5600:655 Marriage and Family Therapy: Theory and Techniques

5600:657 Mental Therapy (Prerequisite: 5600:655)

5600:661 Group Theory in Family Therapy (Prerequisite: 5600:655)

5600:675 Field Experience: Master's

5600:679 Independent Study

5600:720 Topical Seminar

5610:540 Developmental Characteristics of Exceptional Individuals

6400:655 Government and Business

6500:645 Industrial Relations

6700:677 Family Dynamics

5600:710 Seminar in Counseling

Minimum Semester Hours Required: 50

*Must sign up with Secretary one year in advance.

**Must sign up with Internship Coordinator no later than second week of term preceding internship.

Counseling in Elementary or Secondary Schools

This course of study leads to eventual employment as a counselor in the public schools. Note that a school counselor must be certified as a teacher and possess three years of teaching experience. Any changes in the agreed-upon program must be approved by the student's advisor.

- Foundations (select one course from each area)

Behavioral Foundations

5600:648 Individual and Family Development Across the Life Span

Humanistic Foundations

5600:648 Multicultural Counseling

Research

5100:640 Techniques of Research

Minimum Foundation Hours Required: 9

- Required Counseling Department Courses (all required)

5600:660 Seminar in Counseling

5600:675 Group Counseling (Prerequisites: 5600:651 and 5600:653)

5600:679 Practicum in Counseling (Prerequisite: 5600:653)

- Internship

5600:685 Internship in Counseling (minimum 6 hours)

Minimum Department Hours Required: 32-33

- Specialized Studies (both required)

5100:640 Developmental Characteristics of Exceptional Individuals

5600:620 Topical Seminar: Substance Abuse and Sexuality

Total Semester Hours Required for Graduation: 450

Marriage and Family Therapy

This course of study leads to eventual employment in family-based mental health settings. Note that in order to practice counseling in Ohio you must possess a counselor license. Any changes in the agreed-upon program must be approved by the student's advisor.

- Foundations (select one course from each area)

Behavioral Foundations

5600:648 Individual and Family Development

Humanistic Foundations

5600:648 Multicultural Counseling

Research

5100:640 Techniques of Research

5100:741 Statistics in Education

Minimum Foundation Hours Required: 9

- Required Counseling Department Courses (all required)

5600:660 Seminar in Counseling

5600:675 Group Counseling

5600:679 Practicum in Counseling

- Internship

5600:685 Internship in Counseling (minimum 6 hours)

Minimum Department Hours Required: 32-33

- Specialized Studies (both required)

5100:640 Developmental Characteristics of Exceptional Individuals

5600:620 Topical Seminar: Substance Abuse and Sexuality

Total Semester Hours Required for Graduation: 450
Sexuality

Substance Abuse and Sexuality 2
Human Sexuality 3

Human Development and Individual Differences (choose one)

Personality 4
Abnormal Psychology 4
Psychological Disorders of Children 4
Learning and Cognition 4
Learning Processes 3
Development in Infancy and Early Childhood 3

Minimum Specialized Studies Required

Minimum Hours for Marriage and Family Therapy 604

* A minimum of 600 client contact hours must be completed by the end of the internship.
** Must be taken no later than the second term of the program.
*** Counseling Theory and Philosophy and Techniques of Counseling may be taken concurrently.
* Must sign up with Secretary in the year in advance.

School Psychologist*

College requirements:

- 5100:640 Techniques of Research 3
- 5620:694 Research Project 2
- 5620:698 Master's Problem 2.4
- 5620:699 Master's Thesis 4.6

Departmental requirements:

- 5600:643 Counseling Theory and Philosophy 3

Program requirements:

- 3750:530 Psychological Disorders of Childhood 4
- 3750:700 Survey of Projective Techniques 4
- 3750:712 Principles and Practice of Individual Intelligence Testing 4
- 5100:604 Seminar in the Cultural Foundations of Education 3
- 5100:624 Seminar in Human Learning 3
- 5100:631 Statistics in Education 3
- 5620:600 Seminar: Role and Function of School Psychology 3
- 5620:602 Behavioral Assessment 3
- 5620:610 Educational Diagnoses for the School Psychologist 4

Six-Year School Psychology Master's Degree and Certification Program

Foundations requirements:

- 5100:604 Seminar in the Cultural Foundations of Education 3
- 5100:624 Seminar: Educational Psychology 3
- 5100:640 Techniques of Research 3
- 5100:741 Statistics in Education 3

Professional requirements:

- 3700:700 Survey of Psychotic Techniques 4
- 3750:530 Psychological Disorders of Childhood 4
- 3750:712 Principles and Practice of Individual Intelligence Testing 4
- 5620:643 Counseling Theory and Practice 3
- 5620:600 Seminar: Role and Function of School Psychology 3
- 5620:602 Behavioral Assessment 3
- 5620:610 Educational Diagnoses for the School Psychologist 4
- 5620:694 Research Project in Special Area 2.5
- 5620:699 Master's Thesis 2.5

The student completing the master's program who desires Ohio certification must additionally complete the following listed certification/professional course requirements including the full academic year of internship experience:

- 3750:900 Personality 4**
- 5620:543 Developmental Characteristics of Learning Disabled Individuals 3
- 5250:688 Hearing Diagnosis: School Psychology and Support Personnel 3
- 5620:540 Developmental Characteristics of Exceptional Individuals 3**
- 3750:520 Abnormal Psychology 3**
- 5620:673 Consulation Strategies for School Psychology 3
- 5620:611 Practical in School Psychology 4

The nine-month, full-time internship, and the associated seminars entail the following registration:

- 5620:630 Internship: School Psychology 3
- 5620:631 Internship: School Psychology 3
- 5620:640 Field Seminar I: Professional Topics/Issues in School Psychology 3
- 5620:641 Field Seminar II: Low Incidence/Related Inquiries 3

The student who does not hold a valid Ohio teaching certificate must additionally complete the following course pattern:

- 5200:630 Elementary School Curriculum and Instruction 2
- 5200:685/686 Field Experience: Master's 3
- 5700:631 Elementary School Administration 2
- 5700:601 Principles of Educational Administration 2

The student completing the above listed program will be recommended for Ohio certification if his/her credit pattern numbers 60 graduate semester credit hours, counting no more than 15 semester hours at the 500 level, and including the 10 hours credit for the internship and the associated intern seminars.

Special Education

The graduate program in special education is designed for those individuals holding an undergraduate degree in special education. Applicants who do not hold such a degree may be admitted to graduate study in special education as an

* Program admission is competitive based upon state internship allocation. Selection procedures and criteria are available upon request from the School Psychology program director in the Department of Counseling and Social Education. For recommendation for certification as a school psychologist in Ohio, the master's student must additionally complete the program prescribed under "Certification."
The Department of Educational Administration and Leadership offers a master’s degree program in educational administration which is not directed toward a particular administrative or supervisory function. With the help of an advisor and approval of the Graduate School, courses may be substituted and/or waived to create specialized options. Requirements of the standard program and examples of two such specialized programs are listed below.

**General Administration (Standard Program)**
- **Foundation Studies** - nine credits,
- **Required courses**:  
  - 5700.601 Principles of Educational Administration
  - 5700.602 Administration of Educational Personnel
  - 5700.606 Evaluation of Educational Organizations
  - 5700.609 School Law
  - 5700.615 Computer Applications in Educational Administration
  - 5700.616 Field Experience I: Elementary Administration
  - 5700.618 Field Experience II: Secondary Administration
  - 5700.695 Field Experience III: The Superintendency
  - 5700.700 College Bargaining and Employee Relations
  - 5700.707 The Superintendency

**Higher Education Administration (Specialized Option)**
All applicants to the program should have previously earned a bachelor’s degree. Special admission for concurrent studies toward a master’s degree and the higher education certificate may be granted for persons currently employed in higher education. Students interested in admission should first meet with the program coordinator. Persons wishing to pursue a master’s degree in Educational Administration-Higher Education Option must, however, also apply to the Graduate School for admission to the program. Applicants wishing to pursue only the certificate program must apply to the Graduate School for admission as a special non-degree student.
- **Foundation studies** - nine credits,
- **Required courses** 24 credits:
  - 5700.500 Introduction to the Study of Higher Education
  - 5700.515 Administration in Higher Education
  - 5700.521 Law and Higher Education
  - 5700.620 Finance and Higher Education
  - 5700.526 Student Services and Higher Education
  - 5700.527 The American College Student
  - 5700.528 Special Seminar: Higher Education
  - 5700.590 Higher Education Curriculum and Program Planning
  - 5700.600 Administration of an Independent College or University
  - 5700.601 Internship in Higher Education
  - 5700.602 Internship in Higher Education Seminar
  - Total Hours Required: 24

**Electives**
- 5700.526 Career Planning and Policy Development in Higher Education
- 5700.635 Institutions, Strategies, and Techniques for the College Instructor
- 5700.645 Independent Study in Higher Education
- 5700.646 Workshop

**School Treasurer (Specialized Option)**
- **Foundation studies** - nine credits,
- **Required courses**:  
  - 5700.602 School Business Administration
  - 5700.607 School Law
  - 5700.609 School Finance and Economics
  - 5700.697 Independent Study in School Fiscal Management
  - 5700.706 Collective Bargaining and Employee Relations
  - 5700.707 The Superintendency
  - 5700.795/796 Internship
  - 6200.501 Financial Accounting
  - 6200.648 State and Local Taxation

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**Elementary School Principal**

**Objectives**
- Provide the student with an understanding of the elementary school and its history, its present purpose, and its potential.
- Assist the prospective administrator in perceiving the role of the elementary principal and determining whether it is appealing as a career choice.
- Provide the student with the opportunity to experience with alternate leadership styles in order to determine how the student might best lead.
- Coordinate classroom activities with field experiences in order to exercise the student’s administrative skills and test the student’s ability to relate understandings to performance.

**Program**
- **Foundation Studies** - nine credits.
- **Administration courses**:  
  - 5700.600 Elementary School Curriculum and Instruction
  - 5700.601 Principles of Educational Administration
  - 5700.607 School Law
  - 5700.610 Principles of Educational Supervision
  - 5700.612 Administration of Fluid Services
  - 5700.615 Computer Applications in Educational Administration
  - 5700.631 Elementary School Administration
  - 5700.632 Field Experience I: Elementary Administration
  - 5700.633 Field Experience II: Elementary Administration
  - Total for Certification: 46 credits.

**Secondary School Principal**

**Objectives**
- Enable the student to gain a knowledge of the overall curriculum of the secondary school.
- Provide the student with an understanding of successful methods of improving instruction in the secondary school.
- Provide the student with practice in implementing a program to improve instruction.
- Develop within each student the ability to communicate successfully with individuals and groups.
- Work with the individual and the group successfully to improve the educational program.
- Implement technical aspects of secondary education.

**Program**
- **Foundation Studies Courses** - nine credits.
- **Administration courses**:  
  - 5700.619 Secondary School Curriculum and Instruction
  - 5700.621 Supervision of Instruction in the Secondary School
  - 5700.601 Principles of Educational Administration
  - 5700.607 School Law
  - 5700.610 Principles of Educational Supervision
  - 5700.612 Administration of Fluid Services
  - 5700.615 Computer Applications in Educational Administration
  - 5700.620 Secondary School Administration
  - 5700.625 Field Experience I: Secondary Administration
  - Total for Certification: 46 credits.

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**Post-Master’s Degree Requirements for Ohio Certification as an Elementary School Principal**
- Total for Certification: 46 credits.

**Post-Master’s Degree Requirements for Ohio Certification as a Secondary School Principal**
- Total for Certification: 46 credits.
Administrative Specialists

The Department of Educational Administration and Leadership offers programs leading to each of the seven Educational Administrative Specialist certificates granted by the Ohio Department of Education.

Each of these specialist certification programs consists of a master's degree program and a post-master's block. Individual program listings below are marked with a single asterisk (*) and post-master's requirements are marked with a double asterisk (**) and asterisks (***).

Administrative Specialist: Business Management

- Foundation Studies – nine credits.

- Required courses:
  5/00:601 Principles of Educational Administration* 2
  5/00:602 Business Administration* 2
  5/00:603 Administration of Educational Personnel* 2
  5/00:605 Customary Educational Organizations 2
  5/00:607 School Law* 2
  5/00:608 School Finance and Economics* 2
  5/00:612 Administration of Educational Facilities 2
  5/00:615 Computer Applications in Educational Administration 2
  5/00:616 Field Experience I: Elementary Administration* 2
  or 5/00:616 Field Experience I: Secondary Administration* 2
  or 5/00:616 Field Experience for Supervisors* 2
  5/00:706 Collective Bargaining and Employee Relations* 2
  5/00:707 The Superintendent* 2
  5/00:801 Financial Accounting 3
  5/00:802 Management and Production Concepts 3

Administrative Specialist: Educational Research

- Foundation Studies – nine credits.

- Required courses:
  5/00:642 Topical Seminar: Measurement and Evaluation** 3
  5/00:651 Statistics in Education** 3
  5/00:653 Advanced Educational Statistics** 3
  5/00:691 Research Seminar** 3
  5/00:697 Independent Study: Educational Research** 1
  5/00:691 Principles of Educational Administration* 3
  5/00:692 Administration of Educational Personnel* 2
  5/00:693 Evaluation in Educational Organizations 3
  5/00:694 School Law* 2
  5/00:695 School Finance and Economics* 2
  5/00:696 Computer Applications in Educational Administration* 2
  5/00:698 Field Experience I: Elementary Administration* 2
  or 5/00:698 Field Experience I: Secondary Administration* 2
  or 5/00:698 Field Experience for Supervisors* 2
  5/00:706 Collective Bargaining and Employee Relations* 2
  5/00:707 The Superintendent* 2

Administrative Specialist: Educational Staff Personnel Administration

- Foundation Studies – nine credits.

- Required courses:
  5/00:601 Principles of Educational Administration* 3
  5/00:603 Administration of Educational Personnel* 2
  5/00:605 Evaluation in Educational Organizations* 2
  5/00:607 School Law* 2
  5/00:608 School Finance and Economics* 2
  5/00:615 Computer Applications in Educational Administration* 2
  5/00:616 Field Experience I: Elementary Administration* 2
  or 5/00:616 Field Experience I: Secondary Administration* 2
  or 5/00:616 Field Experience for Supervisors* 2
  5/00:706 Collective Bargaining and Employee Relations* 2
  5/00:707 The Superintendent* 2
  5/00:801 Financial Accounting 3
  5/00:802 Management and Production Concepts 3

Administrative Specialist: Instructional Services

- Foundation Studies – nine credits.

- Required courses:
  5/00:630 Elementary School Curriculum and Instruction** 3
  5/00:631 Special Education and Instruction** 3
  5/00:632 Administration of Educational Personnel* 2
  5/00:633 Supervision in Educational Organizations* 2
  5/00:634 School Law* 2
  5/00:635 School Finance and Economics* 3
  5/00:636 Principles of Curriculum Development** 3
  5/00:637 Principles of Education Administration* 3
  5/00:638 Computer Applications in Educational Administration* 2
  5/00:639 Field Experience I: Elementary Administration* 2
  or 5/00:639 Field Experience I: Secondary Administration* 2
  or 5/00:639 Field Experience for Supervisors* 2
  5/00:667 Independent Study: Instructional Services** 3
  5/00:668 Collective Bargaining and Employee Relations* 2
  5/00:707 The Superintendent* 3
  5/00:801 Financial Accounting 3
  5/00:802 Management and Production Concepts 3

Administrative Specialist: Pupil Personnel Administration

- Foundation Studies – nine credits.

- Required courses:
  5/00:631 Elementary Counselor** 3
  5/00:632 Secondary Counseling** 3
  5/00:645 Group Testing** 3
  5/00:653 Organization and Administration of Guidance Services** 3
  5/00:601 Principles of Educational Administration* 3
  5/00:603 Administration of Educational Personnel* 2
  5/00:605 Evaluation in Educational Organizations* 2
  5/00:607 School Law* 2
  5/00:608 School Finance and Economics* 3
  5/00:613 Administration of Pupil Services* 2
  5/00:615 Computer Applications in Educational Administration* 2
  5/00:616 Field Experience I: Elementary Administration* 2
  or 5/00:616 Field Experience I: Secondary Administration* 2
  or 5/00:616 Field Experience for Supervisors* 2
  5/00:706 Collective Bargaining and Employee Relations* 2
  5/00:707 The Superintendent* 3
  5/00:801 Financial Accounting 3
  5/00:802 Management and Production Concepts 3

Administrative Specialist: School and Community Relations

- Foundation Studies – nine credits.

- Required courses:
  5/00:601 Principles of Educational Administration* 3
  5/00:603 Administration of Educational Personnel* 2
  5/00:606 School Community Relations** 3
  5/00:608 Evaluation in Educational Organizations* 3
  5/00:607 School Law* 2
  5/00:608 School Finance and Economics* 3
  5/00:613 Administration of Pupil Services* 2
  5/00:615 Computer Applications in Educational Administration* 2
  5/00:620 Secondary Administration* 3
  5/00:631 Elementary Administration* 3
  5/00:644 Field Experience I: Elementary Administration* 2
  or 5/00:644 Field Experience I: Secondary Administration* 2
  or 5/00:644 Field Experience for Supervisors* 2
  5/00:706 Collective Bargaining and Employee Relations* 2
  5/00:707 The Superintendent* 3
  5/00:801 Financial Accounting 3
  5/00:802 Management and Production Concepts 3

Administrative Specialist: Special Education (Exceptional Children)

- Foundation Studies – nine credits.

- Required courses:
  5/00:640 Developmental Characteristics of Exceptional Individuals** 3
  5/00:641 Seminar: Curriculum Planning* 3
  5/00:642 Supervision of Instruction: Special Education** 3
  5/00:643 Program Development and Delivery Systems** 3
  5/00:644 Independent Study: Exceptional Children** 1
The University of Akron

52  The University of Akron

There is significant

Superintendent

Supervisor

instructional

in improving present

• Electives

• Required courses – post-master’s:

570/602 School Business Administration
2

570/603 Administration of Educational Personnel
2

570/604 School-Community Relations
2

570/605 Administration of Educational Facilities
2

570/606 Collective Bargaining and Employee Relations
2

570/695 Two field experiences are required
4.5

Assistant Superintendent

Superintendent

• All of the assistant superintendent requirements plus:

570/704 Advanced Principles of Educational Administration
2

• Electives, as needed, to bring the program to a total of 60 graduate semester hours.

Required only of an elementary student.
**Required only of a secondary student.
*Required only of a special education student.

Supervision

• Foundation Studies – nine credits.

• Major field:

5200/630 Elementary School Curriculum and Instruction
2

5200/732 Supervision of Instruction in the Elementary School
2

5300/619 Secondary School Curriculum and Instruction
2

5300/721 Supervision of Instruction in the Secondary School
2

5610/601 Seminar: Special Education Curriculum Planning
3

5610/602 Supervision of Instruction: Special Education
3

5700/609 Principles of Curriculum Development
3

5700/610 Principles of Educational Supervision
3

5700/616 Field Experience for Supervisors
3

5700/710 Themes in Educational Supervision
3

• Electives – With the approval of the adviser, the student will select at least one of the following courses and others to fulfill the program minimum of 30 credits:

5100/701 History of Education in American Society
3

5300/741 Statistics in Education
3

5700/696 Master’s Problem
2

*Required only of an elementary student.
**Required only of a secondary student.
*Required only of a special education student.

Educational Foundations

This master’s degree program area is designed for either the student interested in improving present educational skills or the student interested in educational or instructional positions in business, industry, and social services.

The student’s program of study will be determined jointly by the student and advisor. Emphasis may range from advanced instructional technology to studies in educational psychology or the social/philosophical aspects of education. The student may elect to include a thesis or master’s problem or an additional six semester hours of course work:

• Foundation Studies – College Core Foundation Studies (nine hours).

• Departmental Requirements – minimum of 21 hours.

• Outside Departmental – minimum of six hours.

• Master’s comprehensive exam.

Master’s Emphasizing Instructional Technology

• Foundation Core (College Requirement – nine hours)

• Departmental Requirements – with your advisor’s approval, a minimum of 12 hours from the following:

5100/520 Introduction to Instructional Computing
3

5100/512 Design and Production of Instructional Materials
3

5100/590 Workshop in Instructional Technology
3

5100/630 Topical Seminar in Computer-Based Education (may be repeated)
3

5100/636 Topical Seminar in Educational Technology (may be repeated)
3

5100/614 Planning for Technology
3

5101/695 Field Experience: Master’s
12

5101/696 Master’s Technology Project
2-3

5200/697 Independent Study: Master’s
1-3

• Other Requirements – a minimum of six hours, with your advisor’s approval, related to instructional technology, from outside the Department.

• Thesis:

Master’s Problem Option (minimum program total of 30 semester hours):

5100/698 Master’s Problem
3-2

5100/699 Master’s Thesis
4-6

Non-Thesis/Master’s Problem Option (minimum program total of 30 semester hours):

Additional course work in the area of educational technology selected jointly by the student and the advisor for a minimum program total of 36 semester hours.

Elementary Education

Bilingual Multicultural Education

The major purpose of this program is to provide education majors with the knowledge, skills and attitudes necessary to teach bilingual students. Students may become certified in bilingual multicultural education at either the undergraduate or graduate level. The certification requires that a person also become certified in one of the following areas: elementary education, secondary education, special education, or physical education.

At the end of the program, the student must demonstrate proficiency in English and a language other than English in order to meet the certification requirements of the Ohio State Department of Education.

Graduate students wishing a master’s degree in addition to bilingual multicultural certification may earn a master’s degree in multicultural education by taking additional coursework.

The program incorporates coursework in the history and philosophy of bilingual multicultural education, linguistics, English as a second language, and courses covering bilingual students’ language arts, reading, mathematics, social studies and science.

Program requirements:

5300/698 Seminar in English: Introduction to Bilingual Linguistics
3

5630/502 Characteristics of Culturally Diverse Populations
3

5630/584 Principles of Bilingual Multicultural Education
3

5630/587 Techniques for Teaching English as a Second Language in the Bilingual Classroom
3

Field Experience in Bilingual Classrooms/Settings
3

Select one of the following:

5630/586 Teaching Reading and Language Arts to Bilingual Students
4

5630/588 Teaching Mathematics, Social Studies and Science to Bilingual Students
3

Multicultural Education

The purpose of this program is to provide knowledge, skills and attitudes which will enable the educator to design and implement programs that promote the concept of cultural pluralism. Special attention is given to educational programming for the culturally different learner.

• Required Courses:

5100/640 Techniques of Research
3

5200/790 Seminar in Secondary Education
4

5630/545 Group Testing in Counseling
3

5630/561 Multicultural Education in the United States
3

The student’s program of study will be determined jointly by the student and advisor. Emphasis may range from advanced instructional technology to studies in educational psychology or the social/philosophical aspects of education. The student may elect to include a thesis or master’s problem or an additional six semester hours of course work:

• Foundation Studies – College Core Foundation Studies (nine hours).

• Departmental Requirements – minimum of 21 hours.

• Outside Departmental – minimum of six hours.

• Master’s comprehensive exam.

Master’s Emphasizing Instructional Technology

• Foundation Core (College Requirement – nine hours)

• Departmental Requirements – with your advisor’s approval, a minimum of 12 hours from the following:

5100/520 Introduction to Instructional Computing
3

5100/512 Design and Production of Instructional Materials
3

5100/590 Workshop in Instructional Technology
3

5100/630 Topical Seminar in Computer-Based Education (may be repeated)
3

5100/636 Topical Seminar in Educational Technology (may be repeated)
3

5100/614 Planning for Technology
3

5101/695 Field Experience: Master’s
12

5101/696 Master’s Technology Project
2-3

5200/697 Independent Study: Master’s
1-3

• Other Requirements – a minimum of six hours, with your advisor’s approval, related to instructional technology, from outside the Department.

• Thesis:

Master’s Problem Option (minimum program total of 30 semester hours):

5100/698 Master’s Problem
3-2

5100/699 Master’s Thesis
4-6

Non-Thesis/Master’s Problem Option (minimum program total of 30 semester hours):

Additional course work in the area of educational technology selected jointly by the student and the advisor for a minimum program total of 36 semester hours.

Elementary Education

Bilingual Multicultural Education

The major purpose of this program is to provide education majors with the knowledge, skills and attitudes necessary to teach bilingual students. Students may become certified in bilingual multicultural education at either the undergraduate or graduate level. The certification requires that a person also become certified in one of the following areas: elementary education, secondary education, special education, or physical education.

At the end of the program, the student must demonstrate proficiency in English and a language other than English in order to meet the certification requirements of the Ohio State Department of Education.

Graduate students wishing a master’s degree in addition to bilingual multicultural certification may earn a master’s degree in multicultural education by taking additional coursework.

The program incorporates coursework in the history and philosophy of bilingual multicultural education, linguistics, English as a second language, and courses covering bilingual students’ language arts, reading, mathematics, social studies and science.

Program requirements:

5300/698 Seminar in English: Introduction to Bilingual Linguistics
3

5630/502 Characteristics of Culturally Diverse Populations
3

5630/584 Principles of Bilingual Multicultural Education
3

5630/587 Techniques for Teaching English as a Second Language in the Bilingual Classroom
3

Field Experience in Bilingual Classrooms/Settings
3

Select one of the following:

5630/586 Teaching Reading and Language Arts to Bilingual Students
4

5630/588 Teaching Mathematics, Social Studies and Science to Bilingual Students
3

Multicultural Education

The purpose of this program is to provide knowledge, skills and attitudes which will enable the educator to design and implement programs that promote the concept of cultural pluralism. Special attention is given to educational programming for the culturally different learner.

• Required Courses:

5100/640 Techniques of Research
3

5200/790 Seminar in Secondary Education
4

5630/545 Group Testing in Counseling
3

5630/561 Multicultural Education in the United States
3
The master’s degree is designed for early childhood, elementary, junior high, middle, secondary content, secondary developmental, and special education teachers working in a diagnostic-prescriptive, clinical, or adult program. The programs of study provide opportunities to study those aspects of reading that relate to the professional goals and interests of the student. The 36-credit option is designed for students who contemplate pursuing a doctoral program in the future; this option requires a thesis. The 36-credit option is designed for students who wish to enhance their knowledge of reading instruction and retain an interest in a classroom setting to use their newly acquired knowledge. This program requires a field experience under the direction of a member of the elementary education faculty. Neither of these degree options lead to certification in reading in Ohio. Persons wishing this certification must complete additional courses as specified below.

### 36 Credit Option

- **Foundation studies** – nine credits.
- **Elementary Education:**
  - 5200:538 Materials and Laboratory Techniques in Elementary School Mathematics
  - 5200:630 Elementary School Curriculum and Instruction
  - 5200:631 Trends in Elementary Education
  - 5250:680 Trends in Reading Instruction
  - 5250:699 Master’s Thesis
  - 5200:699 Seminar in Elementary Education (two seminars required)
  - **Electives:** Total to fulfill program minimum of 36 credits. Electives may be taken in one concentrated area or from several areas, but must contain courses from 5200, 5250, or 6200 coursework.

For persons wishing to gain further knowledge of the elementary school curriculum and remain in the elementary classroom, the 36-credit program is available. This program requires a field experience that provides an opportunity for the teacher to experiment with newly acquired skills and knowledge under the direction of a faculty adviser.

### 36 Credit Option

- **Foundation studies** – nine credits.
- **Elementary Education:**
  - 5200:538 Materials and Laboratory Techniques in Elementary School Mathematics
  - 5200:630 Elementary School Curriculum and Instruction
  - 5200:631 Trends in Elementary Education
  - 5250:680 Trends in Reading Instruction
  - 5250:699 Master’s Thesis
  - 5200:699 Seminar in Elementary Education (two seminars required)
  - **Electives:** Total to fulfill program minimum of 36 credits. Electives may be taken in one concentrated area or from several areas, but must contain courses from 5200, 5250, or 6200 as listed in the bulletin.

### Middle School Education

For elementary and secondary certified teachers, these courses comprise a major area of study within the master’s program in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum, and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

- **Required courses:**
  - 5100:604 Topic Seminar in the Cultural Foundations of Education
  - 5100:624 Seminar: Educational Psychology
  - 5201:790 Curriculum Development in Middle School
  - 5202:625 Reading Programs in Secondary School
  - 5202:790 Physicology and Organization of Middle School
  - 6600:526 Career Education/Guidance in Middle School

### Reading

The master’s degree is designed for early childhood, elementary, junior high, middle, secondary content, secondary developmental, and special education teachers working in a diagnostic-prescriptive, clinical, or adult program. The programs of study provide opportunities to study those aspects of reading that relate to the professional goals and interests of the student. The 30-credit option is designed for students who contemplate pursuing a doctoral program in the future; this option requires a thesis. The 30-credit option is designed for students who wish to enhance their knowledge of reading instruction and remain in a classroom setting to use their newly acquired knowledge. This program requires a field experience under the direction of a member of the elementary education faculty. Neither of these degree options lead to certification in reading in Ohio. Persons wishing this certification must complete additional courses as specified below.

### 30 Credit Option

- **Foundation studies** – nine credits.

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**Elementary Education:**

Students seeking a master’s degree in elementary education can follow several options. A 30-credit program is available for students who contemplate pursuing a doctoral degree in the future. This option requires the completion of a master’s thesis. The thesis provides the student with research/scholarly writing experiences that form the foundation for further study at the doctoral level.

**36 Credit Option**

- **Foundation studies** – nine credits.
- **Elementary Education:**
  - 5200:538 Materials and Laboratory Techniques in Elementary School Mathematics
  - 5200:630 Elementary School Curriculum and Instruction
  - 5200:631 Trends in Elementary Education
  - 5250:680 Trends in Reading Instruction
  - 5250:699 Master’s Thesis
  - 5200:699 Seminar in Elementary Education (two seminars required)
  - **Electives:** Total to fulfill program minimum of 36 credits. Electives may be taken in one concentrated area or from several areas, but must contain courses from 5200, 5250, or 6200 coursework.

For persons wishing to gain further knowledge of the elementary school curriculum and remain in the elementary classroom, the 36-credit program is available. This program requires a field experience that provides an opportunity for the teacher to experiment with newly acquired skills and knowledge under the direction of a faculty adviser.

**36 Credit Option**

- **Foundation studies** – nine credits.
- **Elementary Education:**
  - 5200:538 Materials and Laboratory Techniques in Elementary School Mathematics
  - 5200:630 Elementary School Curriculum and Instruction
  - 5200:631 Trends in Elementary Education
  - 5250:680 Trends in Reading Instruction
  - 5250:699 Master’s Thesis
  - 5200:699 Seminar in Elementary Education (two seminars required)
  - **Electives:** Total to fulfill program minimum of 36 credits. Electives may be taken in one concentrated area or from several areas, but must contain courses from 5200, 5250, or 6200 as listed in the bulletin.

### Middle School Education

For elementary and secondary certified teachers, these courses comprise a major area of study within the master’s program in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum, and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

- **Required courses:**
  - 5100:604 Topic Seminar in the Cultural Foundations of Education
  - 5100:624 Seminar: Educational Psychology
  - 5201:790 Curriculum Development in Middle School
  - 5202:625 Reading Programs in Secondary School
  - 5202:790 Physicology and Organization of Middle School
  - 6600:526 Career Education/Guidance in Middle School

### Reading

The master’s degree is designed for early childhood, elementary, junior high, middle, secondary content, secondary developmental, and special education teachers working in a diagnostic-prescriptive, clinical, or adult program. The programs of study provide opportunities to study those aspects of reading that relate to the professional goals and interests of the student. The 30-credit option is designed for students who contemplate pursuing a doctoral program in the future; this option requires a thesis. The 30-credit option is designed for students who wish to enhance their knowledge of reading instruction and remain in a classroom setting to use their newly acquired knowledge. This program requires a field experience under the direction of a member of the elementary education faculty. Neither of these degree options lead to certification in reading in Ohio. Persons wishing this certification must complete additional courses as specified below.

### 30 Credit Option

- **Foundation studies** – nine credits.

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**Physical Education and Health Education**

**Athletic Training for Sports Medicine**

The Athletic Training program, requiring 36 credits, is designed primarily for students having an undergraduate degree in the same area. Students may become involved in supervising university undergraduates, working with athletic teams, and other clinical experience both on and off campus. Students interested in this program should not assume they are automatically admitted into it. Admission is based on an interview process conducted by the athletic training staff. If interested in this program, you should contact the head athletic trainer (MH-77 ext. 5550) as soon as possible so that you can be fully apprised of your individual situation.

- **Foundation Courses:**
  - 5100:640 Techniques of Research

- **Required Courses:**
  - 3100:551 Human Physiology
  - 3100:552 Human Physiology
  - 5500:605 Advanced Cardiovascular Physiology
  - 3590:615 Physiology of Muscular Activity and Exercise
  - 5550:509 Biostatistics: Qualitative and Quantitative Methods
  - 5550:541 Advanced Athletic Injury Management
  - 5560:542 Therapeutic Modalities and Equipment in Sports Medicine
  - 5550:560 Special Topics: Pharmacology for Sports

At least two (2) credit hours from the following:

- 5560:605 Field Experience: Master’s or
- 5560:699 Master’s Problem

- ** Electives to be taken with permission of the adviser (at least one course from among the following is required):**
  - 5100:640 Introduction to Instructional Computing
  - 5500:536 Foundations and Elements of Adapted Physical Education
  - 5500:555 Motor Development on Special Populations
  - 5500:601 Supervision and Administration of Physical and Health Education, Recreation and Dance
  - 5500:603 Motivational Aspects of Physical Activity
  - 6550:580 Special Topics: Laboratory Instrumentation
  - 7400:587 Sports Nutrition

Students who enter the NATA program with undergraduate training in the required courses listed above (section II) will take course work from the electives listed (after consultation with their adviser) in a number sufficient to meet the 35 hour program requirement.

**Outdoor Education**

The outdoor education program, requiring 32 credits, is designed for those students having an undergraduate background in elementary or secondary education, biology, environmental studies, health, physical education or recreation. Students may become involved with existing outdoor education programs in the public schools, metropolitan, state and national park programs, or private and public agencies which conduct outdoor/environmental education programs.

- **Foundation Studies** – nine credits.

- **Required Foundation Courses:**
  - 5100:640 Techniques of Research

Remaining six (6) credits to be chosen, with approval of adviser, from 5500:501 or 5500:502 course offerings or 5550:560 Statistics: Qualitative and Quantitative Methods.
Physical Education

The graduate program in physical education, requiring 33 credits, is designed for post-baccalaureate and in-service physical educators. The theme of the program is "physical education as decision-maker." Training received in this program enables the education professional to increase his or her knowledge and skills in the area of adapted education, preparing him or her to face his or her future. The emphasis in this curriculum is to provide answers to the questions "what can I learn about teaching and what decisions do I face as a professional educator?" Successful completion of this program would fulfill the requirement for Ohio public schools as well as for other states. Each student will be assigned an adviser who should be consulted on a regular basis. In fact, adviser approval is required on certain course work.

• Required Foundation Courses:
  5100:610 Philosophies of Education
  5100:604 Topical Seminar in the Cultural Foundations of Education
  6100:620 Psychology of Instruction for Teaching and Learning
  5100:640 Seminar: Educational Psychology
  5100:640 Techniques of Research

• Required Department Courses:
  5550:536 Foundations and Elements of Adapted Physical Education
  5550:502 Supervision and Administration of Physical and Health Education
  5550:601 Motor Behavior
  6550:604 Current Issues in Physical Education
  5550:603 Physical and Health Education: Instructional Strategies
  5550:606 Physiology of Muscular Activity and Exercise
  5550:696 Statistics: Qualitative and Quantitative Methods
  5550:698 Physiological Aspects of Physical Activity
  5550:621 Comprehensive School Health
  5550:698 Field Experience: Master's (minimum)
  5550:699 Master's Thesis

With the approval of an adviser, the student may select additional courses and/or workshops related to the graduate program.

Option: Adapted Physical Education

The Adapted Physical Education option is designed for advanced study about teaching physical education to disabled individuals. Emphasis is given to a development model using assessment and programming of motor skills which lead to increased educational, social, vocational, and lifetime fitness development. The program combines research and clinical field experiences to provide schools and agencies with expertise needed to improve their programs. A minimum of 19 graduate credits is required. Completion of this program will also afford the student an Ohio validation for teaching this content area.

• Required Foundation Courses:
  5100:600 Philosophy of Education
  5100:604 Topical Seminar in the Cultural Foundations of Education
  5100:620 Psychology of Instruction for Teaching and Learning
  5100:640 Seminar: Educational Psychology
  5100:640 Techniques of Research

• Required Department Courses:
  5550:536 Foundations and Elements of Adapted Physical Education
  5550:551 Assessment and Evaluation in Adapted Physical Education
  5550:505 Motor Development of Special Populations
  5550:605 Physiology of Muscular Activity and Exercise
  5550:606 Statistics: Qualitative and Quantitative Methods

5550:696 Field Experience: Master's
5610:566 Neuromotor Aspects of Physical Disabilities
6610:567 Management of Strategies in Special Education

• At least two (2) credits from among the following:
  5550:696 Field Experience: Master's
  5550:698 Master's Thesis

5550:699 Master's Thesis

Option: Exercise Physiology/Adult Fitness

This graduate program, requiring a minimum of 34 credits, is designed to prepare students for advanced study in exercise physiology and future employment in adult fitness, corporate fitness and cardiac rehabilitation programs. Special attention is given to knowledge and practical skills necessary for students preparing for American College of Sports Medicine certifications.

• Required Foundation Courses:
  5100:620 Psychology of Instruction for Teaching and Learning
  5100:624 Seminar: Educational Psychology
  5100:640 Techniques of Research

• Required Department Courses:
  3100:561 Human Physiology
  3100:562 Human Physiology
  3100:563 Advanced Cardiopulmonary Exercise
  5550:605 Physiology of Muscular Activity and Exercise
  5550:696 Statistics: Qualitative and Quantitative Methods
  5550:698 Special Topics in Health and Physical Education: Laboratory Instrumentation
  5400:587 Sports Nutrition

• At least two (2) credits from among the following:
  5550:696 Field Experience: Master's
  5550:698 Master's Thesis

• Electives: Select at least one (1) course from among the following and have adviser approval:
  5100:620 Introduction to Instructional Computing
  5100:640 Statistics in Education
  5100:643 Advanced Education Statistics
  5550:601 Supervision and Administration of Physical and Health Education
  5560:609 Motivational Aspects of Physical Activity

Secondary Education

Middle School Education

For elementary and secondary certified teachers, these courses comprise a major area of study within the master's programs in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

• Required courses:
  5100:604 Topical Seminar in the Cultural Foundations of Education
  5100:624 Seminar: Educational Psychology
  5200:780 Curriculum Development in Middle School
  5300:624 Reading Programs in Secondary School
  5300:780 Philosophy and Organization of Middle School
  5560:526 Career Education Guidance in Middle School

Secondary Education

This program is for middle and junior high school, high school, and post-secondary school teachers. Preparation for the master teacher, department head, supervisor, and resource teacher (the physical education major should see an adviser for alternate course requirements). With minor modification, this program may also serve the holder of a baccalaureate degree who seeks a teaching certificate. For specific information on obtaining initial teaching certification through a master's program, see the department head. The degree requires a minimum of 33 semester hours of graduate work.

• Foundation Studies - nine credits.
  Secondary education course:
  5300:780 Seminar in Secondary Education: Improvement of Instruction (in the area of concentration)

• Ten credits from the following:
  5550:699 Secondary Curriculum and Instruction
5300:425 Reading Programs in Secondary Education 3
5300:455 Field Experience 1-6
5300:498 Master's Problem 3
5300:689 Supervision of Instruction 2
5300:721 Seminar: Secondary Education* 2
5400:505 Vocational Education for Youth and Adults 3

- Area of concentration (500 level or above) – 10 credits

* Only two seminars for this option may be counted toward the degree.

Course selections are made by student and adviser in accord with the student’s professional interest. Possible areas of concentration include:

- Subject Matter Specialist (mathematics, English, etc.)
- Middle school education
- Economic education
- Microcomputer applications
- Electives – two to ten credits
- A comprehensive examination is required.

**Secondary Education (Certification)**

This program is open to highly qualified students who hold the B.A. or B.S. degree. All requirements for certification must be met including the 600 hours of field and clinical diagnostic experiences.

- Foundation Courses (110 credits):
  5100:600 Philosophies of Education 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 Psychology of Instruction for Teaching and Learning 3
  5100:642 Topical Seminar in Measurement and Evaluation 3
  5100:695 Field Experience: Master’s 1

- Secondary Education Seminar (12 credits):
  5300:780 Seminar in Secondary Education 2

- Secondary Education (18):
  5300:696 Field Experience: Master’s 1
  5300:697 Seminar/Curriculum and Instruction 3
  5300:699 Supervision of Instruction in the Secondary School 2

- Secondary Education in Secondary Education
  5300:545 Microcomputer Applications for Secondary Teachers 2
  5300:520 Reading Programs in Secondary Schools 3
  5300:697 Independent Study 3
  5300:695 Field Experience: Master’s 1

- Area of Concentration (5):
  Select 9 credits at 500-level or above.
  - Field Experience (Student Teaching) (7 credits):
    5300:695 Field Experience: Master’s 6
    5300:694 Field Experience: Master’s 1

- A comprehensive examination is required.

Total Program: 44

**Technical Education**

The major objective of the technical education program is to prepare the instructor and other educational personnel for post-secondary educational institutions, industry, and public and private agencies engaged in the education and training of technicians and middle-level workers.

**Program**

- Foundation Studies – nine credits:
  5100:502 Comparative and International Education 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:624 Seminar: Educational Psychology for 5100:620 3
  5100:640 Techniques of Research 3

- Professional Technical Education Courses:
  5400:500 Professional Learner 3
  5400:520 Systematic Curriculum Design for Technical Education 3
  5400:535 Instructional Techniques in Technical Education 3

- Internship:
  The student entering the program without teaching experience is required to take a teaching internship at a cooperating two-year institution, business, industry, or related learning organization.

- Elective credits (two to three credits) may support the field of specialization, add to general education, or in professional education courses.

A comprehensive examination must be passed.

A cumulative portfolio will be evaluated as an exit requirement during the internship course.

**Six Options** (Select one for a total of 32-42 credits, depending on option)

**Teaching Option** (21 credits) Total credits required for this option - 42

An approved schedule of career-related courses selected from the Graduate School offerings. Course selections will be determined by the student’s academic and professional background.

- 5400:505 Vocational Education for Youth and Adults 3
- 5400:600 The Two-Year College 3

**Guidance Option** (12 credits) Total credits required for this option - 32

- 5400:605 Community Counseling 3
- 5400:697 Career Development and Counseling Across the Lifespan 3
- 5400:xxx (Elective) 3
- 5400:600 The Two-Year College 3

**Training Option** (22 credits) Total credits required for this option - 32

An approved schedule of career-related courses selected from the Graduate School offerings. Course selections will be determined by the student’s academic and professional background.

- 5400:615 Training in Business and Industry 3
- 5100:642 Topical Seminar in Measurement and Evaluation 3

**Supervision Option** (12 credits) Total credits required for this option - 35

- 5400:606 Advanced Systems Design for Technical Instruction 3
- 5400:615 Advanced Techniques for Technical Instruction 3
- 5400:620 Supervision of Technical Instruction 3
- 5400:505 Vocational Education for Youth and Adults 3
- 5400:600 The Two-Year College 3

**Administration Option** (12 credits) Total credits required for this option - 32

- 5400:600 The Two-Year College 3
- 5400:691 Current Issues in Higher Education 3

**Instructional Technology Option** (12 credits) Total credits required for this option - 32

- 5100:630 Topical Seminar in Computer-Based Education 6
- 5100:636 Topical Seminar in Educational Technology 6

**General Electives** (0-3, depending on choice of options)
College of Business Administration

Stephen F. Hallam, Ph.D., Dean
James E. Inman, J.D., Associate Dean
James R. Emore, D.B.A., Assistant Dean and Director of Undergraduate Programs
John Daniel Williams, D.B.A., Assistant Dean and Director of Graduate Programs

Mission Statement
The MBA program is the principle graduate program of UAA's College of Business Administration. The objective of the MBA program is to provide a diverse group of men and women with the skills, leadership, vision, and innovative spirit needed to rise to positions of organizational leadership in a global business environment characterized by intense competition and rapid rates of technological change. Graduates of UAA's MBA program should possess:

The analytical and conceptual abilities needed to identify and cope successfully with ambiguous and unstructured business problems;
The conceptual understanding of how those functions are linked in the formulation and execution of business strategies;
A strong ethical perspective, an appreciation of cultural diversity, and an ability to communicate in an effective, persuasive manner;
An understanding of the legal, political, regulatory, economic and technological environment; and;
An awareness of the global economy in which business operates and an understanding of the forces that shape competitiveness in that economy.

In order to accomplish these goals, the graduate faculty of the College of Business Administration commits itself to providing a quality graduate business experience. That experience will have a strong professional focus, characterized by teamwork among students. The faculty is dedicated to creating an intense and stimulating environment that emphasizes the application of theory to real managerial problems and that is permeated by the basic concepts of globalization, ethics, leadership, and planned change.

We recognize that there are many skills students need to acquire in their MBA program in addition to technical competencies in their field of concentration. These include communication and interpersonal skills, analytical reasoning and leadership skills. Eight of these "expanded" competencies to be intertwined throughout the program are as follows:

Communication
1. Ability to present views and concepts clearly in writing;
2. Ability to read, critique, and judge the value of written work;
3. Ability to present views and concepts clearly through oral communication.

Group work and people skills
4. Ability to understand group dynamics and work effectively with people from diverse backgrounds;
5. Ability to manage conflict;
6. Ability to organize and delegate tasks.

Critical thinking and creative and effective problem solving
7. Ability to solve diverse, structured and unstructured problems;
8. Ability to deal effectively with imposed pressures and deadlines.

The basics for most of these skills may be taught in prior bachelor degree programs and are taught in the foundation core courses. Experiences are provided to students throughout the program in a variety of ways to develop these skills. A student's progress is to be documented and evaluated by self-evaluation, peer evaluation, and faculty evaluation.

MASTER'S DEGREE
The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration, Master of Science in Management, Master of Taxation, and Master of Science in Accountancy. The University has offered programs of study in business since 1919, initially through the Department of Commerce and since 1958 through the College of Business Administration. In 1958, graduate studies in business were begun. Both the undergraduate and master's programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

During its long tradition, the college has sought to fulfill the educational and professional needs of its 1200 graduate students, the community and regional business organizations. To meet its urban objectives, the college offers graduate courses only between 5:30 p.m. and 10:00 p.m. The master's programs are designed to serve those who work full-time and wish to pursue a master's program on a part-time basis. However, many students enroll full-time to complete the master's program in a shorter period.

Admission

Policy
The applicant must meet one (1) of the following eligibility requirements which are in conformity with the Graduate School and the college's accrediting agency (AACSB):

• Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based upon the overall undergraduate grade point average (GPA) (A=4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.
• Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based on the junior-senior (i.e., last 64 semester or 96 quarter credits) GPA (A=4.0) times 200 plus the GMAT score.
• Hold a degree from outside the United States and have an academic standing of first or high second class, satisfactory evidence of competence in English (i.e., TOEFL score of 550 or above) and a score of at least 450 on the GMAT.

Even though an applicant is eligible for consideration, an offer of admission is not guaranteed. Since staff, facilities, and resources are limited, a determination must be made as to the number of applicants who can be adequately served among those eligible. As a result, offers of admission may be limited to the most qualified of the eligible applicants as determined by the CBA Graduate Admissions Committee. The committee will consider the following in making decisions: the difficulty of the applicant's undergraduate program; the length of time and activities since graduation; and the percentage ranking on the GMAT.

In rare instances, the applicant who has taken the GMAT but does not meet requirements may be considered for admission. Also, those who have previously been denied admission may, upon presentation of new information, be reconsidered. In either case, the applicant must petition, in writing, the CBA Graduate Admissions Committee for reconsideration.

Under the regulations of the Graduate School, eligible applicants who have been extended an offer of admission by the CBA Graduate Admissions Committee are recommended to the dean of the Graduate School for either "full" or "provisional" graduate status. Those admitted with the classification "provisional status" who have not attained an overall 3.00 GPA upon the completion of 12 graduate credits will be dismissed from the program.

Procedure

GMAT scores should be sent to the Director of Graduate Programs in Business, College of Business Administration, The University of Akron, Akron OH 44325-4585 (institution code 1829). The GMAT test is administered worldwide and the applicant should register for it sufficiently in advance to the filing of the graduate application, so evaluation for admission will not be delayed. GMAT registration forms can be obtained from the Graduate Program in Business Office or the Educational Testing Service, Box 966-R, Princeton, NJ 08540. Those who have taken the GMAT more than five years ago are normally required to retake it.

All applications and accompanying documentation are evaluated simultaneously by the Graduate Admissions Committee (GAC). The GAC meets monthly and the applicant will be informed in writing of the GAC's decision within one week of the meeting.

Requirements

To be awarded any master's degree from the College of Business Administration, a student must:

• Meet the time and grade point requirements of the Graduate School.
• Complete the minimum credits in each of the degree descriptions.
• Complete all course requirements of applicable master's program.

Transfer Policy

The College of Business Administration will permit nine credits of comparable graduate credits to be transferred into any of the graduate business programs (15 or more credit into the J.D./M.B.A. program). These credits must be pre-approved by the director of graduate programs in the C.B.A. This transfer credit policy also applies to second degree applicants.
Second Degree

For a student who has already obtained one master’s degree in business, it is possible to pursue another degree in the college provided that: (1) no second M.B.A. is to be obtained; (2) the degree sought is not in the same functional discipline; (3) the desired program (degree curriculum) is specifically approved in advance by the director of graduate programs in business; and (4) fewer than 21 new credits are earned for the second degree.

Master of Business Administration

The Master of Business Administration program is designed to give the student a general knowledge of the functional areas of business and permit the concentration of study in one of the following areas: accounting, finance, management, marketing, or international business. The program consists of 58 graduate credits. Foundation courses may be waived for those who have had recent study in the areas. Foundation and advanced courses can be taken concurrently provided that all prerequisites have been met.

- **Foundation Courses**
  - All are required unless waived at the time of admission:
    - 3250:600 Foundation of Economic Analysis (3 credits)
    - 6200:601 Financial Accounting (3 credits)
    - 6400:602 Managerial Finance (3 credits)
    - 6400:655 Government and Business (3 credits)
    - 6500:650 Management and Organizational Behavior (3 credits)
    - 6500:601 Quantitative Decision Making (3 credits)
    - 6600:602 Computer Techniques for Management (3 credits)
    - 9600:600 Marketing Concepts (3 credits)

- **Functional Core (12 credits):**
  - 6200:610 Accounting and Control (3 credits)
  - 6200:614 Financial Management and Policy (3 credits)
  - 6600:670 Operations Management (3 credits)
  - 6600:620 Strategic Marketing Management (3 credits)

- **Professional Core (4 credits):**
  - 6700:690 Professional Responsibility (3 credits)
  - 6700:680 International Business (1 credit)
  - 6700:694 Applied Business Documentation and Contact (1 credit)
  - 6700:696 Special Topics in Professional Development (1 credit)

- **Quantitative Tools (3 credits):**
  - Student must complete one of the following courses:
    - 6200:664 Research and Quantitative Methods in Accounting (3 credits)
    - 6400:650 Administering Costs and Prices (3 credits)
    - 6500:650 Applied Operations Research (3 credits)
    - 6600:640 Business Research Methods (3 credits)

- **Concentration (9 credits):**
  - The student must select 9 credits in a field of concentration (accounting, finance, management, marketing, international business, quality management, materials management, health services administration).

- **Free Electives (3 credits):**
  - Students must select 3 credits of free electives outside the area of concentration. Approval of Director is required.

- **Integrative (3 credits):**
  - 6500:635 Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters) (3 credits)

- **Program Summary**
  - **Total Program Credits: 58**

If the Foundation Core Courses are all waived, the program is 34 credits in length.

Note: International Business concentration students must select one of the following options.

1. Foreign Language option: demonstrate reading and conversational proficiency in a language other than English.
2. Cross-Cultural option: select one course (3 credits) from the following courses:
   - 3200:550 Comparative Economic Systems
   - 3205:560 Economic Development and Planning for Underdeveloped Countries
   - 3250:670 International Monetary Economics
   - 3250:671 International Trade
   - 3250:538 World Metropoliton Areas
   - 3350:550 Development Planning
   - 3350:532 Comparative Planning
   - 3400:516 Modern India
   - 3400:573 Latin America The Twentieth Century

For a student who has already obtained one master’s degree in business, it is possible to pursue another degree in the college provided that: (1) no second M.B.A. is to be obtained; (2) the degree sought is not in the same functional discipline; (3) the desired program (degree curriculum) is specifically approved in advance by the director of graduate programs in business; and (4) fewer than 21 new credits are earned for the second degree.

**Master of Science in Accountancy**

The Master of Science in Accountancy program is designed to provide students with undergraduate degrees in areas other than accounting with a professional accounting program which will enable the student to pass the CPA Examination and pursue career options which combine their undergraduate interests with professional accounting credentials. Graduates of the program will be eligible to sit for the Uniform CPA Examination under the Ohio 150-hour Legislation.

- **Foundation Courses:**
  - 6900:600 Financial Accounting (3 credits)
  - 6400:602 Managerial Finance (3 credits)
  - 6500:600 Management and Organizational Behavior (3 credits)
  - 6200:601 Financial Accounting (3 credits)
  - 6200:603 Business Systems with Processing Applications (3 credits)
  - 6600:601 Quantitative Decision Making (3 credits)
  - 6400:623 Legal Aspects of Business Transactions (3 credits)
  - 3250:630 Foundations of Economic Analysis (3 credits)

The advanced program consists of 36 hours of which 27 are required and 9 are elective. For a student entering with no business background, the program requires foundation coursework, is 60 hours.

- **Advanced Courses:**
  - Required:
    - 6200:621 Corporate Accounting and Financial Reporting I (3 credits)
    - 6200:622 Corporate Accounting and Financial Reporting II (3 credits)
    - 6200:619 Accounting, Management and Control (3 credits)
  - **Electives:**
    - One 600-level accounting elective (3 credits)
    - Two 500- or 600-level non-accounting electives (6 credits)

- **Foundation courses will be waived for students with recent study in the subject area.**

**Master of Taxation**

The Master of Taxation Program is a professional degree designed to provide intensive training both for those planning to enter the field and for experienced accountants and attorneys.

The program provides a framework of conceptual, technical and professional knowledge which will assist the student in developing the expertise needed to examine and understand many aspects of the difficult tax structure. Through an integrated curriculum with emphasis on tax concepts, substantive knowledge of federal and state taxation, tax research and communication skills and tax planning, the student develops an ability to identify and solve tax problems.

The Master of Taxation curriculum consists of a set of foundation courses and a set of required taxation courses. A minimum of 30 semester credits is required for the degree. Foundation courses may be waived for those who have had recent study in the subject areas.

- **Foundation Courses:**
  - 6220:601 Financial Accounting (3 credits)
  - 6220:621 Corporate Accounting and Financial Reporting I (3 credits)
  - 6220:622 Corporate Accounting and Financial Reporting II (3 credits)
  - 6220:623 Legal Aspects of Business Transactions (3 credits)
  - 6220:630 Taxation I (3 credits)
  - 6220:631 Taxation II (3 credits)

- **Required Master of Taxation Courses:**
  - 6220:624 Basic Tax Research (1 credit)
  - 6220:631 Corporate Taxation I (3 credits)
  - 6220:632 Taxation of Transactions in Property (3 credits)
  - 6220:633 Estate and Gift Taxation (3 credits)

- **Electives:**
  - Twenty credits of graduate taxation courses selected from courses numbered 6200:561-600 (20 credits)

- **Total Required Taxation Courses:**
  - 30-48 credits
In exceptional situations, subject to the approval of the Chair of the G.W. Davis- 
ron School of Accountancy, up to six credits of approved graduate College of 
Business Administration courses may be allowed as electives.

Master of Science in Management

The Master of Science in Management program allows students to concentrate 
their advanced study in one of two areas: human resource management or infor­ 
mation systems management. Because of the complex nature of these special­
izations, they are not normally offered as options in traditional MBA programs. 
They are designed for individuals who know what they want to do or to help them 
apply what they already know more effectively. For example, computer science 
majors may choose to concentrate in information systems while psychology 
majors would benefit from the human resource management option. The intro­
ductive coursework for this program is termed a foundation core and consists of 
12 credits of general management coursework, 15 credits of specialization courses and one 3-credit 
free elective. If all foundation courses are waived, the program is 30 credits in length.

• Foundation Core: 
  All are required unless waived at time of admission:
  2230:650  Foundation of Economic Analysis  3
  6220:601  Financial Accounting  3
  6400:620  Managerial Finance  3
  6400:650  Government and Business  3
  6500:600  Management and Organizational Behavior  3
  6500:691  Quantitative Decision Making  3
  6500:692  Computer Techniques for Management  3
  6600:603  Marketing Concepts  3

• MSW Core Courses:
  6500:640  Management Information Systems  3
  6500:649  Data Analysis for Managers  3

• Organizational Core Courses, Choose 1:
  6500:653  Organizational Theory  3
  6500:654  Organizational Behavior  3
  6500:670  Operations Management  3

• Core Electives:
  Choose 3:
  6600:662  Applied Operations Research  3
  6500:670  Operations Management  3

• Free Elective: Any 3 graduate credits approved by the Graduate Director  3

Total Core: 15 credits

Options: 
Choose a concentration from the following:

Information Systems Management (ISM) 15 credits

• ISM Required Concentration Courses:
  6500:641  Data Management and Communication  3
  6600:643  Analysis and Design of Business Systems  3
  6500:644  Managerial Decision Support and Expert Systems  3
  6500:645  Advanced Management Information Systems  3

• ISM Restricted Electives (Select 3 credits):
  9500:642  Systemic Simulation  3
  4000:678  Project Management  3
  6500:651  Productivity and Quality of Worklife Issues  3
  6700:596  Selected Topics in Professional Development  1

Human Resource Management (HRM) 15 credits

• HRM Required Concentration Courses:
  6500:594  Fundamentals of Human Resource Administration  3
  6500:584  Labor Management Relations  3
  6300:655  Compensation Administration  3
  6500:692  Organizational Behavior  3
  6500:653  Organizational Theory  3

• HRM Restricted Electives (Select 3 credits):
  6500:658  Strategic Human Resource Management  3
  6500:661  Employment Legislation  3
  6500:660  Productivity and Quality of Worklife Issues  3
  6700:596  Selected Topics in Professional Development  1

Total concentration: 15 credits

Total program: 30 credits

*All total credits of foundation courses are required; see Graduate Director.

Health Services Administration

The Department of Management has made the Master of Science in Manage­ment—Health Services program inactive. No students will be admitted to this program until further notice.

Materials Management

The Department of Management has made the Master of Science in Manage­ment—Materials Management program inactive. No students will be admitted to this program until further notice.

Quality Management

The Department of Management has made the Master of Science in Manage­ment—Quality Management program inactive. No students will be admitted to this program until further notice.

Joint Programs

The School of Law and the College of Business Administration (CBA) offer a joint program in legal and administrative studies (J.D./M.B.A.) and a joint program in legal and taxation studies (J.D./M.Tax.). These combinations are open to the stu­dent preparing for a career in such areas as corporate law, tax accounting, or legal practice in government. The amount of time required to complete a joint degree program is shorter than the time required to complete both programs independ­ently. To pursue either cooperative program, the student must apply to and be accepted by both the School of Law and the Graduate School of the CBA. The stu­dent should contact each school independently for information covering admis­sion criteria and procedures for further information on School of Law admissions, write: Director of Admissions, School of Law, The University of Akron, Akron, OH 44325-9000. A baccalaureate degree is required.

Degree Requirements

A student is required to fulfill the requirements of the School of Law, 87 credits, which includes 10 credits transferred from the CBA. The requirements of the CBA may be met by fulfilling the requirements previously listed which include the common body of knowledge (Foundation) courses unless waived because of prior undergraduate credit earned and 25 credits for M.B.A., of advanced courses in the CBA plus six credits transferred from the School of Law. The Master of Taxa­tion program consists of 20-24 credits of advanced courses in the CBA plus 10 credits transferred from the School of Law. The reciprocal acceptance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Pro­grams in Business prior to completion. To earn both degrees, a total of 97 (J.D./M.B.A.) or 102 (J.D./M.Tax.) credits is required, depending on the master's program pursued. More credits may be required for the master's degree if founda­tion courses are required.

Upon the approval of the director of Graduate Programs in Business, 10 credits of School of Law courses may be applied toward the Masters of Taxation degree. No more than six credits from the School of Law may be in non-tax courses. The other four credits taken in the School of Law must be in tax courses which sub­stitute for equivalent tax courses in the CBA.

J.D./M.B.A. students may transfer nine credits of School of Law courses into the M.B.A. program. Six credits must be in their area of concentration and must be selected from the courses listed below. Related courses not listed under con­centrations may transfer with approval of the director of graduate programs in Business Administration. Three credits of free electives may be chosen from other business-related law courses and must be approved by the director of gradu­ate programs in Business Administration.

Law Courses to be used as MBA Concentration Courses

Choices for Concentration Electives:

Accounting (choose 6 credits)

• 9200:630  Estate and Gift Taxation  3
• 9200:650  Individual Taxation  3
• 9200:684/9200:682  Corporate Taxation I, II  3
• 9200:683  Taxation of Partnerships and S Corporations  3
• 9200:685  Current Problems in Taxation  3
• 9200:720  Special Problems in Estate Planning  3
• 9200:680  Qualified Pensions and Profit Sharing  3
• 9200:686/9200:688  Will, Trusts and Estates I, II  6

Finance (choose 5 credits)

• 9200:629  Commercial Law I  3
• 9200:625  Bankruptcy Law  3
• 9200:639  Estate and Gift Taxation  3
• 9200:652  Real Estate and Taxation  3
• 9200:671  Securities Regulation  3
• 9200:675  Special Problems in Estate Planning  3
• 9200:680  Qualified Pensions and Profit Sharing  3
• 9200:686/9200:688  Will, Trusts and Estates I, II  6
• 9200:645  International Investments  3
International Business (choose 6 credits)
9200:646 International Law
9200:649 International Trade
9200:691 International Investments and the European Economic Community

Management (choose 6 credits)
9200:657 Equal Opportunity Law
9200:660 Labor and Employment Law
9200:661 Labor Arbitration and Collective Bargaining
9200:663 Lawyer as Negotiator
9200:660 Workers' Compensation
9200:677 Seminar in Business Planning
9200:679 Labor Law

Marketing (choose 6 credits)
9200:627 Commercial Law I
9200:639 Lawyer as Negotiator
9200:662 Media Law
9200:667 Patent, Trademark and Copyright Law
9200:672 Seminar in Business Planning
9200:683 Seminar in Product Liability
9200:684 Sports and Entertainment Law
College of Fine and Applied Arts

Linda Moore, Ph.D., Dean
John D. Beg, Ph.D., Interim Associate Dean
William H. Seaton, Ph.D., Associate Dean

Mission Statement
The College of Fine and Applied Arts is dedicated to enhancing the quality of life of the individual, the University, and the community. Through instruction, research, creative activity, and outreach programs, the College fosters artistic and social inquiry and direct application of knowledge to self, family and society. Students are supported in their quest for knowledge of their chosen fields and encouraged to shape their artistic and social environments.

MASTERS DEGREE

Home Economics and Family Ecology

The program of study is offered leading to the Master of Arts in Home Economics and Family Ecology degree offers options in child development, child life, clothing, textiles and interiors; family development; and food science. Students must meet the following admission requirements for acceptance in the program:

- Minimum GPA of 2.75 for four years of undergraduate study or 3.00 for the last two years of undergraduate study.
- Completion of general Graduate Record Examination within the five years preceding application, with a minimum total score of 1200 on the three parts of the GRE.
- Submission of a letter of personal career goals, sent to the director of graduate studies.

Two letters of recommendation may be submitted, if desired.

The graduate faculty of the School of Home Economics and Family Ecology may require an interview with any applicant.

Accepted students will be expected to comply with the following requirements:

- Complete the course of study in one of the five options, with a minimum of 40 credits.

These credits will include:

- Foundation courses to prepare for research in home economics and family ecology as an interdisciplinary field.
- Option electives and cognate electives, selected in consultation with academic advisor, from within School or in another discipline. These are chosen to strengthen student's professional goals.
- Complete a master's thesis or a master's project. The thesis option involves the design, development, implementation, and evaluation of original and creative programs and/or resource materials. A written proposal for the thesis or project cannot be submitted until successful completion of the comprehensive examination.
- Apply for advancement to candidacy upon successful completion of 24 credits of graduate study, the written comprehensive examination, and an approved prospectus for the thesis or project.
- Pass an oral examination covering the thesis or project report.

Foundation Courses
- Required by all program options:
  7400:604 Orientation to Graduate Studies in Home Economics and Family Ecology
  7400:695 Research Methods in Home Economics and Family Ecology

Child Development Option

- Core Courses:
  7400:605 Developmental Parent-Child Interactions 3
  7400:610 Child Development Theories 3
  7400:616 Development in Infancy and Early Childhood 3

- Option Electives
  Select 12 credits from the following courses with approval of adviser (if a course has been taken at the undergraduate level, other courses must be selected):
  7400:501 Family Life Patterns in the Economically Deprived Home 2
  7400:504 Adolescence in the Family Context 3
  7400:542 Human Sexuality 3
  7400:545 Public Policy and American Families 3
  7400:548 Sexual and Adolescent Child Care 2
  7400:560 Organization and Supervision of Child Care Centers 3
  7400:596 Parent Education 3
  7400:607 Family Dynamics 3
  7400:615 Infant and Child Nutrition 3
  7400:651 Family and Consumer Law 3
  7400:660 Programming for Child Care Centers 3
  7400:668 Practicum in Home Economics and Family Ecology 3

- Cognate Electives
  Select 7 credits with approval of adviser from within the School of Home Economics and Family Ecology OR from a cognate area outside the School OR from a combination of the two.
  - Thesis or Project (select one):
    7400:694 Master's Project 5
    7400:699 Master's Thesis 5
    Total 40

Child Life Option

- Core Courses:
  7400:551 Child in the Hospital 4
  7400:555 Practicum: Establishing and Supervising a Child Life Program 3
  7400:585 Orientation to the Hospital Setting 2
  7400:691 Child Life Internship 4

- Option Electives
  Select 10 credits with approval of adviser from among the following (if a course has been taken at the undergraduate level, other courses must be selected):
  7400:501 Family Life Patterns in the Economically Deprived Home 2
  7400:504 Adolescence in the Family Context 3
  7400:542 Human Sexuality 3
  7400:560 Organization and Supervision of Child Care Centers 3
  7400:585 Seminar in Home Economics (Child Life 101) 3
  7400:645 Parent Education 3
  7400:650 Developmental Parent-Child Interactions 3
  7400:610 Child Development Theories 3
  7400:615 Infants and Child Nutrition 2
  7400:660 Programming for Child Care Centers 2
  7400:665 Development in Infancy and Early Childhood 3

- Cognate Electives
  Select 5 credits with approval of adviser from within the School of Home Economics and Family Ecology OR from a cognate area outside the School OR from a combination of the two.
  - Thesis or Project (select one):
    7400:694 Master's Project 5
    7400:699 Master's Thesis 5
    Total 42

Clothing, Textiles, and Interiors Option

- Core Courses:
  7400:634 Material Culture Studies 3
  7400:638 Theories of Fashion 3
  7400:677 Social Psychology of Dress and the Near Environment 3

- Option Electives
  7400:518 History of Interior Design I 4
  7400:519 History of Interior Design II 4
  7400:523 Professional Image Analysis 3
  7400:525 Advanced Textiles 3
  7400:527 Textiles and Apparel Industry 3
  7400:537 Residential Design 3
  7400:538 Principles and Practices of Interior Design 3
  7400:538 Textile Conservation 3
  7400:537 Historic Costume to 1900 3
  7400:538 History of Fashion Since 1900 3
  7400:621 Problems in Design 16
  7400:688 Practicum in Home Economics and Family Ecology 3
  7400:696 Individual Investigation in Home Economics and Family Ecology 16
Nutrition and Dietetics

A program of study is offered leading to the Master of Science in Nutrition and Dietetics. Students must meet the following admission requirements for acceptance in the program:

- Meet the minimum GPA of 2.75 for four years of undergraduate study or 3.00 for the last two years of undergraduate study.
- Have completed the general Graduate Record Examination within the five years preceding the application and achieved a minimum total score of 1200 on the three parts of the GRE.
- Submit a letter of personal career goals.
- Offer two letters of recommendation if desired.

The graduate faculty of the School of Home Economics and Family Ecology may require an interview with any applicant.

In addition to the above, the student will be expected to comply with the following requirements:

- Complete the course of study with a minimum of 40 credits. These credits will include:
  - Foundation courses to prepare the student for research in home economics and family ecology as a discipline;
  - Core courses in the area of specialty;
  - Electives selected from within the department or from another discipline to strengthen student's professional goals. These courses will be selected in consultation with and approval from the student's graduate faculty adviser.
  - Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.
  - Apply for advancement to candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination, and an approved prospectus for a thesis or project.
  - Complete a thesis or project. The thesis option involves the design and evaluation of original research in an appropriately related area commensurate with the student's background and area of pursuit. The project option involves the design, development, implementation and evaluation of original and creative programs and/or resource materials. A written proposal for the thesis or project option cannot be submitted until the successful completion of a comprehensive examination.
  - Pass an oral examination covering the thesis or project.

Foundation Courses

- Required by all program options:
  7400:604 Orientation to Graduate Studies in Home Economics and Family Ecology 1

Core Courses:

- Food Science Option
  7400:624 Advanced Human Nutrition I 3
  7400:625 Advanced Human Nutrition II 3

Electives (9 to 12 credits required)

Select with the approval of adviser from among the following. At least 2 courses must be selected from Biology (3100) or Chemistry (3150). If a nutrition course has been taken at the undergraduate level, it may not be used at the graduate level.

Cognate Electives (8 to 11 credits required)

Select with the approval of adviser from among the following or other courses that strengthen the student's goals.
Music
The degree Master of Music is offered by the School of Music with options in music education, performance, composition, theory, music history and literature, and accompanying. Entrance requirements for each program are as follows:

- The standard requirements for an undergraduate major in the area of proposed graduate specialty or performance which the school director approves as equivalent to an undergraduate major.
- The Graduate School’s requirements for admission.
- The performance and accompanying options require an audition on the student’s major instrument/voice. Please contact the coordinator of Graduate Studies for an audition time.
- The option in music education, music theory, and music history and literature require an interview with faculty in the appropriate area.

The student should consult with the coordinator of Graduate Studies in Music for additional information regarding the individualized nature of each option.

For the performance option in voice, a proficiency equal to two semesters each in German and French is required for completion of the Master of Music Degree in Voice Performance. If the student lacks background in any of these languages, auditing of undergraduate courses is required.

After completion of all course work, the student must file an examination covering the graduate program. This examination is individualized for each candidate’s unique program.

Composition Option
- Music core courses – eight credits (to be selected):
  7500.555 Advanced Conducting: Instrumental 2
  7500.656 Advanced Conducting: Choral 2
  7500.615 Musical Styles and Analysis I; Choral through Renaissance 2
  7500.616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500.617 Musical Styles and Analysis III (Late Beethoven through Mahler Strauss) 2
  7500.619 Theory and Pedagogy 2
- Major required courses – 21-23 credits:
  7500.601 Choral Literature 2
  7500.618 Musical Styles and Analysis IV (20th Century) 2
  7500.624 Music History Survey: 20th Century 2
  7500.647 Master’s Choral Recital 1
  7500.690 Master’s Thesis 4
- Additional music courses – zero to two credits.

Graduate-level (music) courses, workshops, applied lessons (other than in composition) and/or advanced problems to be selected by the student and adviser.

Electives – three credits.

To be selected by student and adviser. Areas include graduate-level courses in other disciplines, such as theatre arts, in which the student obtains permission of instructor, or 7520.642 Applied Composition.

Degree total: 34-36 credits.

Music Education Option
Thesis Option – 32 credits
- Required Music Education Core Courses – 13-15 credits
  7500.611 Foundations of Music Education 4
  7500.612 Practices and Trends in Music Education 3
  7500.614 Measurement and Evaluation in Music Education 3
  7500.615 Research 2
- Additional music education courses – select 17-19 credits with approval from music education and graduate advisers
  7500.675 Seminar in Music Education 1-3
  7500.687 Advanced Problems in Music Education 2-8

Music Technology Option
The Master of Music, Music Technology Option is designed to give the student additional exposure to the functional areas of music plus an advanced concentration in music technology and related business. The program provides a framework of conceptual, technical and professional knowledge which will assist the student in career opportunities of fields related to music technology. Students will leave the program with a portfolio of tutorials, recorded works, and/or computer software.

- Music core courses – six credits (to be selected):
  7500.555 Advanced Conducting: Instrumental 2
  7500.556 Advanced Conducting: Choral 2
  7500.615 Musical Styles and Analysis I 2
  7500.616 Musical Styles and Analysis II 2
  7500.621 Music History Survey: Classic and Romantic 2
  7500.622 Music History Survey: 20th Century 2
- Major required courses – 26-28 credits,
Graduate Studies 63

Performance Option in Accompanying

**Music core courses**: Eight credits (to be selected):

- 7300:555 Advanced Conducting: Instrumental 2
- 7300:575 Advanced Conducting: Choral 2
- 7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
- 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
- 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky) 2
- 7500:618 Musical Styles and Analysis IV (20th Century) 2
- 7500:621 Music History Survey: Middle Ages and Renaissance 2
- 7500:622 Music History Survey: Baroque 2
- 7500:623 Music History Survey: Classic and Romantic 2
- 7500:624 Music History Survey: 20th Century 2

**Major required courses**: 3-23 credits

- Select one of the following:
  - 7500:632 Advanced Music Theory I
  - 7500:633 Advanced Music Theory II
  - 7500:634 Advanced Music Theory III
  - 7500:635 Advanced Music Theory IV

**Elective**: Two credits

- Graduate Recital (3-4 credits)

**Additional music courses**: two to three credits

- Graduate-level courses, as determined by the student and advisor.

Degree total: 32-36 credits

Performance Option in Voice

**Music core courses**: Eight credits (to be selected):

- 7500:555 Advanced Conducting: Instrumental 2
- 7500:556 Advanced Conducting: Choral 2
- 7500:557 Musical Styles and Analysis I (Chant through Palestrina) 2
- 7500:558 Musical Styles and Analysis II (Baroque through early Beethoven) 2
- 7500:559 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky) 2
- 7500:560 Musical Styles and Analysis IV (20th Century) 2
- 7500:561 Music History Survey: Middle Ages and Renaissance 2
- 7500:562 Music History Survey: Baroque 2
- 7500:563 Music History Survey: Classic and Romantic 2
- 7500:564 Music History Survey: 20th Century 2

**Major required courses**: 20-22 credits

- Select one of the following:
  - 7500:695 Voice Pedagogy 2
  - 7520:624 Advanced Song Literature 2
  - 7500:698 Graduate Recital 2

**Elective**: Four credits

- Electives: 2-4 credits

Degree total: 34-36 credits

Performance Option in Keyboard

**Music core courses**: Eight credits (to be selected):

- 7500:555 Advanced Conducting: Instrumental 2
- 7500:556 Advanced Conducting: Choral 2
- 7500:557 Musical Styles and Analysis I (Chant through Palestrina) 2
- 7500:558 Musical Styles and Analysis II (Baroque through early Beethoven) 2
- 7500:559 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky) 2
- 7500:560 Musical Styles and Analysis IV (20th Century) 2
- 7500:561 Music History Survey: Middle Ages and Renaissance 2
- 7500:562 Music History Survey: Baroque 2
- 7500:563 Music History Survey: Classic and Romantic 2
- 7500:564 Music History Survey: 20th Century 2

**Major required courses**: 18-21 credits

- Select one of the following:
  - 7500:615 Musical Styles and Analysis IV (20th Century) 2
  - 7500:616 Musical Styles and Analysis V (20th Century)
  - 7500:617 Musical Styles and Analysis V (20th Century)
  - 7500:618 Musical Styles and Analysis V (20th Century)

**Elective**: Four credits

- Electives: 2-4 credits

Degree total: 34-36 credits

Note: No more than a total of 12 credits of 7500 courses may be applied to the degree.

Performance Option in Wind, String Percussion

**Music core courses**: Eight credits (to be selected):

- 7500:555 Advanced Conducting: Instrumental 2
- 7500:556 Advanced Conducting: Choral 2
- 7500:557 Musical Styles and Analysis I (Chant through Palestrina) 2
- 7500:558 Musical Styles and Analysis II (Baroque through early Beethoven) 2
- 7500:559 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky) 2
- 7500:560 Musical Styles and Analysis IV (20th Century) 2
- 7500:561 Music History Survey: Middle Ages and Renaissance 2
- 7500:562 Music History Survey: Baroque 2

**Major required courses**: 20-22 credits

- Select one of the following:
  - 7500:695 Voice Pedagogy 2
  - 7520:624 Advanced Song Literature 2
  - 7500:698 Graduate Recital 2

**Elective**: Four credits

- Electives: 2-4 credits

Degree total: 34-36 credits

Note: A minimum communication proficiency is required in Italian, German, and French. If the student lacks background in any of these language requirements, completion of undergraduate courses is required.

Areas of study for the degree must encompass a minimum of three solo ensemble recitals (instruments or vocal). These can be any of the following:

- 7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
- 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
- 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky) 2
- 7500:618 Musical Styles and Analysis IV (20th Century) 2
- 7500:621 Music History Survey: Middle Ages and Renaissance 2
- 7500:622 Music History Survey: Baroque 2
- 7500:623 Music History Survey: Classic and Romantic 2
- 7500:624 Music History Survey: 20th Century 2

**Major required courses**: 18-21 credits

- Select one of the following:
  - 7500:615 Musical Styles and Analysis IV (20th Century) 2
  - 7500:616 Musical Styles and Analysis V (20th Century)
  - 7500:617 Musical Styles and Analysis V (20th Century)
  - 7500:618 Musical Styles and Analysis V (20th Century)

**Elective**: Four credits

- Electives: 2-4 credits

Degree total: 34-36 credits

Areas of study for the degree must encompass a minimum of three solo ensemble recitals (instruments or vocal). These can be any of the following:

- 7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
- 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
- 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky) 2
- 7500:618 Musical Styles and Analysis IV (20th Century) 2
- 7500:621 Music History Survey: Middle Ages and Renaissance 2
- 7500:622 Music History Survey: Baroque 2
- 7500:623 Music History Survey: Classic and Romantic 2
- 7500:624 Music History Survey: 20th Century 2
The University of Akron

Theory Option

- Music core courses – six credits (to be selected):
  7500:551 Manuscript Analysis 2
  7500:553 Advanced Conducting, Instrumental 2
  7500:554 Advanced Conducting, Vocal 2
  7500:555 Advanced Conducting, Choral 2
  7500:556 Advanced Conducting, Choral 2
  7500:557 Music History Survey, Medieval and Renaissance 2
  7500:558 Music History Survey, Baroque 2
  7500:559 Music History Survey, Classical and Romantic 2

- Electives – zero to two credits.
  Additional music courses – zero to two credits.

Graduate-level (transfer) workshops, applied music (other than composition), advanced problems, and/or courses to be selected by student and adviser.

Theatre Option

- Complete a minimum of 36 credits distributed as follows:
  - School core courses - 24 credits:
    7800:697 Master's Thesis 6
    7800:698 Research Methods in Communicative Disorders 3
    7800:699 Thesis (698) or Project/Production 6
  - Graduate electives:
    12 credits to be selected from Theatre Arts, English, Communication, Music, etc., in consultation with the student's advisor or the graduate program coordinator.

Communication

The School of Communication offers the master of arts degree in a coordinated program of Communication arts.

Entrance requirements:
- Meet the general requirements for admission to the Graduate School.
- Possess an undergraduate major in communication, journalism, or a related field or, complete at least 15 semester credits of undergraduate communication coursework approved by the department.

Program requirements:
- Complete 36 credits, distributed as follows:
  - School core courses – 12 credits:
    7600:692 Legal Aspects of Communication 3
    7600:693 Management and Organizational Behavior 3
    7600:694 Marketing Concepts 3
    7600:695 Social Studies in Communication 3
    7600:696 Speech-Language Pathology and Audiology 3
    7600:697 Master's Thesis 6
  - Electives in related fields (3-6 credits):
    Options here include course work in business, computer science, urban studies, art, music, and theatre and dance.

Speech-Language Pathology and Audiology

This program, leading to the M.A. in speech-language pathology or an M.A. in audiology, is designed to lead to professional certification by the American Speech-Language Hearing Association (ASHA) in speech-language pathology and audiology and licensure by the State of Ohio Board of Speech-Language Pathology and Audiology. To enter the program:
- Complete requirements for admission to the Graduate School.
- Hold an undergraduate major in the area of proposed graduate specialty or complete undergraduate work within one calendar year of application.
- Complete department requirements for admission which include submission of three letters of recommendation and Graduate Record Examination Aptitude Test results.
- Declare intent to major in either speech-language pathology or audiology.

Speech-language pathology and audiology majors are accepted for entrance into the program only for Fall Semester. Applications for admission should be received by February 15th.

Degree Requirements

- The Master's thesis is optional for students in speech-language pathology and audiology. All students will successfully complete a course of study with a minimum of 38 credits, two of which may be thesis credits for students electing the thesis option. Students in the non-thesis option will also write comprehensive examinations during the final semester. Academic requirements within the school include:
  - For speech-language pathology majors:
    7700:681 Research Methods in Communicative Disorders I 3
    7700:682 Topics in Differential Diagnosis of Speech and Language Disorders 2

- Complete an oral defense of the thesis or thesis project.

Continuous Enrollment Requirement: Regarding the completion of 7800:699 Master's Thesis, students must enroll for one credit of 7800:699 each Fall and Spring semester until the thesis project is completed (approved).
The student must take four credits of 7700:665 Externship, Speech Pathology and Audiology. Two credits of 5610:693 Student Teaching in Speech Pathology or 5610:695. Student Teaching in Audiology may be substituted for two credits of 7700:695. (Although 5610:692 and 5610:693 are 6 hours of credit, only 2 of those credits may be substituted for 7700:695.) The audiology student must take 4 credits in speech-language pathology, and the speech-language pathology student must take 4 credits in audiology. It is recommended that the speech-language pathology major elect 7700:639 Advanced Clinical Testing to fulfill this requirement.

- The following limitations on work toward the degree may be exceeded only with the approval of two-thirds of the school's graduate faculty:
  - no more than 4 credits of workshop courses,
  - no more than 6 credits of directed study course work (including 7700:697), and
  - no more than 6 credits taken in disciplines other than communicative disorders.
- Only 7 credits of clinical practicum may be applied toward completion of degree requirements. These 7 credits may consist of externship, student teaching (maximum of 2 credits), and in-house practicum. However, the student may wish, or be required, to complete one or more practica in addition to degree requirements. Only 2 credits of student teaching (5610:692 or 5610:693) can be counted toward degree requirements. Students must be registered for clinical practicum, externship or student teaching during any academic period in which they are involved in in-house practicum, externship or student teaching.

### Social Work

The Master of Social Work Program is a joint degree program administered by Cleveland State University and The University of Akron. The two-year program began in January 1995 with a new class beginning each Fall Semester on both campuses. Distance learning technology, which utilizes interactive video and audio systems, will link faculty and students at the two institutions. The degree program is in candidacy status with the Council on Social Work Education.

Students accepted into the graduate program leading to a master's degree in social work must register for 500 level courses. Graduate courses taken at this 500 level are not applicable for the graduate degree program in social work, but can be used (with approval) as an elective for other University of Akron graduate programs.

### Admission Requirements:
- Meet the general Graduate School requirements for admission.
- An undergraduate major in social work or a related field.
- Have a minimum grade point average of 3.00 in social work and behavioral science courses taken prior to application for admission. A minimum of 8 courses is required in this area.
- Submit 3 letters of reference.
- Submit an essay of 3-5 typed pages explaining:
  a) why he/she wants to be a social worker;
  b) why a graduate degree is felt to be necessary to fulfill his/her personal or professional objectives;
  c) his/her views regarding diversity in society;
  d) a situation in which he/she was the recipient/provider of help, emotionally, socially, or economically.
- A description of any social work/human service work experience must be submitted.

### Program Requirements:
- Complete a minimum of 60 graduate credits of approved courses in social work.
- Up to 9 credits of graduate-level electives outside the department may be included in the program. There is no foreign language requirement.
- Complete an approved program of courses which include the following required courses:

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<thead>
<tr>
<th>First Year Professional Foundation:</th>
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<tbody>
<tr>
<td>Fall Semester</td>
</tr>
<tr>
<td>7750:601  Foundation Field Practicum</td>
</tr>
<tr>
<td>7750:603  Social Work Practice with Small Systems</td>
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<td>7750:604  Social Work Practice with Large Systems</td>
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<tr>
<td>7750:605  Social Welfare Policy I</td>
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<tr>
<td>7750:606  Human Behavior and Social Environment: Small Social Systems</td>
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<tr>
<td>7750:607  Social Welfare Policy II</td>
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<tr>
<td>7750:608  Human Behavior and Social Environment: Large Systems</td>
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<tr>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>7750:609  Foundation Field Practicum</td>
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<tr>
<td>7750:610  Social Work Practice with Large Systems</td>
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<tr>
<td>7750:611  Dynamics of Racism and Discrimination</td>
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<tr>
<td>7750:612  Fundamentals of Research I</td>
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<tr>
<td>7750:613  Human Behavior and Social Environment: Large Systems</td>
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<th>Second Year Concentrations (Direct Practice):</th>
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<tbody>
<tr>
<td>Fall Semester</td>
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<tr>
<td>7750:603  Advanced Field Practicum</td>
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<tr>
<td>7750:607  Advanced Practicum with Small Systems I</td>
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<tr>
<td>7750:608  Advanced Practicum with Large Systems II</td>
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<tr>
<td>7750:609  Single System Design</td>
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<td>2 electives</td>
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| Spring Semester                              |
| 7750:604  Advanced Field Practicum            | 3 |
| 7750:605  Advanced Practicum with Small Systems II | 3 |
| 7750:606  Single System Design                | 3 |
| 1 elective                                    | 3 |

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<th>Second Year Concentrations (Macro Practice):</th>
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<tr>
<td>Fall Semester</td>
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<tr>
<td>7750:603  Advanced Field Practicum</td>
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<tr>
<td>7750:604  Social Work Policy</td>
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<tr>
<td>7750:605  Community Organization and Planning</td>
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<tr>
<td>7750:606  Program Evaluation</td>
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<tr>
<td>1 elective</td>
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</tbody>
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| Spring Semester                             |
| 7750:604  Advanced Field Practicum           | 3 |
| 7750:605  Social Work Policy                  | 3 |
| 7750:606  Community Organization and Planning | 3 |
| 7750:607  Program Evaluation                 | 3 |
| 1 elective                                   | 3 |
through continual construction and reconstruction of experience in relation to environmenal influences.

Nursing education at the baccalaureate level synthesizes knowledge from nursing, humanities, social, cultural, physical and natural sciences to operational clinical decision-making. The student is prepared to function as nurse generalist in a variety of settings. Faculty and student continually seek to refine the commitment to and understanding of 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 education and provides foundation for doctoral study. Graduate education prepares advanced practice nurses with expertise in critical thinking and decision making, effective communication, and therapeutic interventions. Through a variety of learning experiences, master of science in nursing students analyze and use theoretical formulations and research findings in advanced practice.

The College of Nursing promotes the general mission of The University of Akron. The college offers diverse and comprehensive nursing education programs at the undergraduate and graduate levels. The programs of study, based on professional standards, prepare individuals to provide nursing care in a variety of settings. The College of Nursing supports nursing research that promotes health and wellbeing of society. The college is committed to serving culturally, linguistically and ethnically diverse populations. Through academic and community collaboration, the college promotes excellence in nursing education, research, practice, and service.

Mission Statement

As an integral part of The University of Akron, the College of Nursing promotes the general mission of The University of Akron, The college offers diverse and comprehensive nursing education programs at the undergraduate and graduate levels. The programs of study, based on professional standards, prepare individuals to provide nursing care in a variety of settings. The College of Nursing supports nursing research that promotes health and well-being of society. The college is committed to serving culturally, linguistically and ethnically diverse populations. Through academic and community collaboration, the college promotes excellence in nursing education, research, practice, and service.

Goals

- Prepare generalist and advanced practice nurses who are eligible for initial licensure and for certification.
- Provide a foundation for lifelong commitment to professional development and scholarship through continued education and advanced study at the master's and doctoral levels.
- Prepare nurses who are sensitive in caring for diverse populations in a variety of settings.
- Prepare professional practitioners who integrate leadership roles and ethical standards in a continuously changing health care arena and society.

Philosophy

The College of Nursing faculty believe that the role of professional nursing are individuals, families and communities.

The individual is seen as a complex whole whose emergence involves patterns, dynamic change, and the contribution and interdependence. 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 in traditional and nontraditional family configurations.

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, nonexistence and quality of life. People have the right to participate in decisions affecting and affecting 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 changing health care environment. Professional nursing includes the appraisal and the enhancement of health. Personal meanings of health are understood in the context of interpersonal, familial, societal and cultural meanings. The professional nurse uses knowledge from theory and research in nursing and other disciplines in providing nursing care. The role of the nurse involves the exercise of social, cultural, and political responsibilities, including accountability for professional actions, provision of quality nursing care, and community involvement.

Education is an individualized, life-long process. Learning includes the individual's relationships with the environment, knowledge and skill acquisition, development of critical thinking, and self-awareness. Self-expression enables 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 that occurs through continual construction and reconstruction of experience in relation to environmental influences.

Nursing education at the baccalaureate level synthesizes knowledge from nursing, humanities, social, cultural, physical and natural sciences to operational clinical decision-making. The student is prepared to function as nurse generalist in a variety of settings. Faculty and student continually seek to refine the commitment to and understanding of 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 education and provides foundation for doctoral study. Graduate education prepares advanced practice nurses with expertise in critical thinking and decision making, effective communication, and therapeutic interventions. Through a variety of learning experiences, master of science in nursing students analyze and use theoretical formulations and research findings in advanced practice.

**MASTER OF SCIENCE IN NURSING**

Accreditation

The master's degree programs are fully accredited by the National League for Nursing Accreditation Commission (NLNAC). NLNAC is a resource of information regarding tuition, fees, and length of program and can be contacted at 350 Hudson Street, New York, New York 10014, 1-888-669-9656, extension 153.

Characteristics of the Graduate

Upon completion of the program graduates will be able to:

- Incorporate theories and advanced knowledge into nursing practice.
- Demonstrate competence in selected roles.
- Identify researchable nursing problems and participate in research studies in advanced nursing practice.
- Use leadership, management, and teaching knowledge and competencies to influence nursing practice.
- Assume responsibility for contributing to improvement in the delivery of health care and influencing health policy.
- Assume responsibility for contributing to the advancement of the nursing profession.

Admission

- Baccalaureate degree in nursing from NLN-accredited nursing program.
- 3.00 GPA on a 4.00 scale for previous college work.
- Miller Analogies Test taken within the last five years with a minimum score of 50 or GRE taken within the last two years. During the past three years, the range of GRE scores has been: verbal 400-600, quantitative 400-695, and analytical 400-640.
- Three (3) letters of reference from a recent employer, a member of the nursing profession, a former faculty member.
- 300-word essay describing professional goals.
- Interview prior to admission to the program.
- Current state of Ohio license to practice nursing and evidence of malpractice insurance.
- Prerequisite course requirements: Undergraduate Statistics, Nursing Research, Basic Health Assessment and Computer Skills, Graduate Level Statistics.

A one year experience in an area where critical care and emergencies occur is required for all students admitted to the nurse anesthesia specialty.

Applicants who are certified nurse practitioners will be evaluated and have their program planned on an individual basis.

Admission Procedures

The student secures application for Graduate School from the Office of the Dean of the Graduate School, The University of Akron, or the Office of Student Affairs, College of Nursing. Criteria specific for admission to the Graduate Nursing Program may be secured from the Associate Dean of the Graduate Program in Nursing or the Office of Student Affairs.
A graduate admissions committee of the College of Nursing will review all applications and make recommendations to the associate dean regarding the applicant's status. The associate dean will send recommendation to the dean of the Graduate School who will notify the student of admission status.

Applications received in the graduate office of the College of Nursing will be reviewed when the file is complete to facilitate the admissions process.

**Instructional Program**

The Master of Science in Nursing curriculum includes 36 credit hours of study and focuses on nursing care of vulnerable populations in episodic and long term care situations. Areas of concentration include Adult Health Nursing, Liaison-Community Mental Health Nursing, Child and Adolescent Health Nursing, and Gerontological Nursing. Graduates are prepared for advanced practice roles in education, administration, clinical nurse specialization, or nurse practitioner. The curriculum is based on theory and research both in nursing and in related disciplines. It provides the foundation for doctoral study and for ongoing professional development.

The Master of Science program in Nurse Anesthesia includes 44 credit hours of study and focuses on the student's preparation for certified registered nurse anesthetist (CRNA).

**Nursing Core**

The core consists of 17 credits which span the curriculum. These courses encompass advanced theory, research and practice.

**Nursing Research**

All students enroll in a research core for a total of 7 credits: 8200 613 Nursing Inquiry I and 8200 699 Master's Thesis or 8200 618 Nursing Inquiry II.

**Advanced Practice Roles**

Options are provided for roles of educator, administrator, clinical nurse specialist, nurse manager, or nurse anesthetist.

The graduate nursing curriculum requires between 16 and 45 credits, depending on the Advanced Practice Role selected by the student.

Core courses required of all students:

- 8200 608 Paraphysiological Concepts of Nursing Care 
- 8200 603 Theoretical Basis for Nursing 
- 8200 605 Computer Applications in Nursing 
- 8200 607 Policy Issues in Nursing 
- 8200 613 Nursing Inquiry I 
- 8200 618 Nursing Inquiry II 
- 8200 699 Master's Thesis 

Functional role courses selected by students based upon area of specialty.

- **Education:**
  - 8200 682 Nursing Curriculum Development 
  - 8200 683 Evaluation in Nursing Education 
  - 8200 684 Practicum: The Academic Role of the Nurse Educator

- **Administration:**
  - 8200 632 Fiscal Management in Nursing Administration 
  - 8200 630 Resource Management in Nursing Settings 
  - 8200 635 Organizational Behavior in Nursing Settings 
  - 8200 638 Practicum Administration I 
  - 8200 639 Practicum Administration II

- **Nurse Anesthesia**
  - 8200 661 Advanced Adult/Gerontological Assessment 
  - 8200 662 Practicum: Adult Health Nursing I 
  - 8200 663 Practicum: Adult Health Nursing II 
  - 8200 664 Practicum: Adult Health Nursing III 
  - 8200 665 Practicum: Adult Health Nursing IV 
  - 8200 666 Practicum: Adult Health Nursing V 
  - 8200 667 Practicum: Adult Health Nursing VI 
  - 8200 668 Practicum: Adult Health Nursing VII 
  - 8200 669 Practicum: Adult Health Nursing VIII 
  - 8200 670 Practicum: Adult Health Nursing IX 
  - 8200 671 Practicum: Adult Health Nursing X 
  - 8200 672 Practicum: Adult Health Nursing XI

**Graduate Studies**

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**R.N.-M.S.N. PROGRAM**

**Admission Policies**

The R.N.-M.S.N. Program is a graduate program, and as such, applicants must meet the following admissions requirements:

- Current Ohio State license as a registered nurse and evidence of malpractice insurance.
- Grade-point average of 3.00 on a 4.00 scale for all previous college work.
- Three (3) letters of reference from a recent employer, a member of the nursing profession, or a former faculty member.
- Miller Analogies Test taken within the last five years with a minimum score of 50 or Graduate Record Exam (GRE) taken within the last five years. During the past three years, the range of GRE scores has been verbal 400-614, quantitative 400-655, and analytical 400-640.
- 300-word essay describing professional goals.
- Interview with selected faculty members and submission of a portfolio.
- Computer skills.
Curriculum

The R.N.-M.S.N. Sequence is designed for those registered nurses holding a diploma or associate degree in nursing who aspire to the Master of Science in Nursing degree. Students must complete 67 hours of prerequisite undergraduate coursework prior to acceptance into the Sequence. The R.N.-M.S.N. Sequence consists of bridge courses totaling 21 hours of upper-division baccalaureate coursework and a minimum of 36 hours of graduate coursework. Students will receive 46 hours of undergraduate by-passed credit after successful completion of all undergraduate course requirements. This is in accordance with the current University policy for by-passed credit. Upon successful completion of all program requirements, the student will receive the B.S.N. and M.S.N. degrees.

- R.N.-M.S.N. Bridge Courses:
  
  B200:225 Health Assessment  3
  B200:435 Nursing Research  3
  B200:460 Issues and Roles of the Profession of Nursing  3
  B200:465 Concepts and Theories of Professional Nursing  3
  B200:470 Community Health Nursing  4
  B200:485 Leadership Roles of Professional Nursing  5
College of Polymer Science and Polymer Engineering

Frank N. Kelley, Ph.D., Dean
Rudolph J. Scavuzzo, Ph.D., Associate Dean

HISTORY
The University of Akron has been a focus for education and research in polymer science since 1910 when Professor Charles M. Knight began offering courses in rubber chemistry. Master's theses treating rubber chemistry on the University library shelves date to 1920. The University began developing major laboratories in 1942 under the leadership of Professor G.S. Whipple, and the UA program played a significant role in the synthetic rubber industry of the U.S. government during World War II. An Institute of Rubber Research under the direction of Professor Maurice Morton was created in 1956, which became an Institute of Polymer Sciences in 1958. A Ph.D. program in Polymer Science was introduced in 1956. In 1967, a Department of Polymer Science in the College of Arts and Sciences was formed which awarded M.S. and Ph.D. degrees in Polymer Science.

A Center for Polymer Engineering was created in 1983 and a Department of Polymer Engineering in the College of Engineering in January 1984 with Professor J. L. White as director and department head to give thrust to polymer processing and engineering applications.

In 1988 the College of Polymer Science and Polymer Engineering was established to consolidate the administration of the two academic departments, the Institute of Polymer Science and the renamed Institute of Polymer Engineering.

MISSION STATEMENT
The mission of the College of Polymer Science and Polymer Engineering is to serve its students through a high quality educational experience, incorporating both classroom and laboratory learning, as well as a stimulating research environment. Its graduates and former research associates provide a well-trained workforce for employers throughout the world, but especially for the State of Ohio. With the generation of new knowledge from research and the application of that knowledge, the College serves society with benefits to both the economy and the environment.

- The primacy purpose of the College is to educate its students in the science and engineering of polymers. Since the College is involved principally in graduate level education (M.S. and Ph.D.), its students are taught the skills of research by the faculty, occasionally assisted by visiting scientists, and post-doctoral associates.
- The involvement of the College faculty, students and associated staff in research provides a further purpose, i.e., to develop new knowledge concerning polymeric materials and processes, and to disseminate that knowledge to the broader community of researchers, technologists, and manufacturers who employ that knowledge to their own arms.
- The College provides a variety of services through its institutes and centers to aid the economic and cultural development of our society. Individual faculty members provide services as consultants to industry, government, and civic institutions, concerning the developments in knowledge and applications of polymers.
- An additional function of the College is to provide training for those individuals who wish to improve their skills and knowledge concerning various types of polymers, their properties, processes and uses. Undergraduate students from other colleges within the University participate in specialized courses taught by the polymer college faculty as they pursue their traditional degree programs. Also, a variety of non-credit offerings are presented as continuing education, intensive short courses, and seminars.

DESCRIPTION
The College of Polymer Science and Polymer Engineering carries out a program of research and education, primarily at the graduate level, and serves as a major intellectual resource for the scientific and technological development of polymers and related materials and processes. The college consists of the Department of Polymer Science, the Department of Polymer Engineering, the Maurice Morton Institute of Polymer Science and the Institute of Polymer Engineering.

The Department of Polymer Science and The Institute of Polymer Science, emphasize polymer synthesis, the physical chemistry, physics and mechanical behavior and technology of polymers, and many of their applications. The Department of Polymer Engineering and the Institute of Polymer Engineering, emphasize polymer processing (including reactive processing), solid state structure/morphology and properties of polymers as related to processing history, as well as engineering analysis and design. Collaborative research among the faculty in the two departments is common and provides a unique environment and capability for solving modern-challenges. This provides a fertile environment for students to obtain multidisciplinary training.

ADMISSION REQUIREMENTS
Admissions to the graduate program in the college are competitive. The departmental admission committees carefully consider each applicant. Early application is suggested.

DEPARTMENT OF POLYMER SCIENCE
Students with an undergraduate degree in chemistry, physics, or engineering and a grade point average of 2.75 or better are admissible. Students holding a degree in biology or natural sciences usually need additional courses on the undergraduate level in physics, physical and analytical chemistry. For such students, a special non-degree admission may be given for one or two semesters, followed by a full admission upon a student's successful completion of the remedial undergraduate courses. All applications must be supported by at least one letter of recommendation from a teacher or supervisor that the candidate is able to handle independent scientific research. GRE scores are recommended for each applicant.

A student with a M.S. in the sciences from another university can be admitted to the Ph.D. program. Two letters of recommendation are required in such cases to be certain that the student is likely to be successful in doctoral research.

DEPARTMENT OF POLYMER ENGINEERING
Students with an undergraduate degree in Chemical Engineering, Mechanical Engineering or related degrees with a grade point average of 2.75 or better are admissible. Students holding a degree in the natural sciences usually need additional undergraduate engineering courses, which are required prerequisites for core courses. For such students, depending on their background, a special non-degree admission may be given followed by full admission upon successful completion of a series of required remedial courses. A student with a M.S. in Mechanical or Chemical Engineering from another university can be admitted to the Ph.D. program. Two letters of recommendation are required in such cases to be certain that the student is likely to be successful in doctoral research.

DOCTOR OF PHILOSOPHY
Students may pursue the Doctor of Philosophy degree in either Polymer Science or Polymer Engineering.

Doctor of Philosophy in Polymer Science
An interdisciplinary program leading to the Doctor of Philosophy in Polymer Science is administered by the Department of Polymer Science. Graduates from the three main disciplines (chemistry, physics and engineering) are guided into the appropriate classes of study and research in that field under the supervision of a graduate mentor. Research facilities in the Institute of Polymer Science are available for dissertation research. Students may be admitted directly to the Ph.D. program upon screening of their qualifications and recommendation by the department head and dean.

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy in Polymer Science must meet the following requirements:

- Complete a course of study prescribed by the student's advisory committee, based on the committee's judgment of the student's background and on the results of any special examinations it might impose. This course will consist of a maximum of 36 credits in graduate courses or their equivalent, plus sufficient Ph.D. research credits to make a total of 64 credits (exclusive of Master of Science thesis credit). Credits for participation in either Polymer Science of Polymer Engineering seminars do not apply toward the degree. At least 18 credits of graduate course work and all dissertation credits must be completed at the University.
There is a university minimum residence time requiring one year, although graduate students starting with a B.S. or B.A. typically spend 4 years in residence.

- Completion of 18 credits among the following core courses (2 credits each) in polymer science:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>9871:601</td>
<td>Polymer Concepts</td>
</tr>
<tr>
<td>9871:602</td>
<td>Synthesis and Chemical Behavior of Polymers</td>
</tr>
<tr>
<td>9871:704</td>
<td>Condensation Polymerization</td>
</tr>
<tr>
<td>9871:705</td>
<td>Free Radical Reactions in Polymer Science</td>
</tr>
<tr>
<td>9871:706</td>
<td>Ionic and Monomer Initiation Reactions</td>
</tr>
</tbody>
</table>

- Completion of 8 credits of elective courses appropriate to each student's area of interest.

- Pass eight cumulative examinations which are given at monthly intervals during the academic year. The candidate is urged to begin these examinations early in the graduate program.

- Completion of 9871:607.8 Polymer Science Seminar I and II.

- Attendance at and participation in seminar-type discussions scheduled by the department. Credits for participation in graduate seminars do not apply toward the degree.

- Present a public/departmental seminar on the completed research.

- Pass an oral examination upon completion of a research dissertation.

- Demonstrate competency in computer programming.

- Pass the general requirements for the Doctor of Philosophy degree.

- Satisfy the foreign language requirement for the doctoral degree by meeting the requirements of Plan A, B, or C as specified by the student's advisory committee. Appropriate research skills for Plan C are to be specified by the department on the basis of the student's area of specialization and intended research. These skills include proficiency in computer programming language, special mathematical methods, applied statistical analysis, and special literature search techniques.

**Doctor of Philosophy in Engineering (Polymer Engineering)**

The Department of Polymer Engineering administers a graduate program in which graduate students, with primarily engineering backgrounds, are guided through a course of study and research under the supervision of a faculty member. Students may be admitted directly to the Ph.D. program upon attainment of their qualifications and recommendation by the department head and dean.

Students in Polymer Engineering must satisfy the general requirements of the Graduate School and the department as stated below:

- Successfully complete a qualifying examination within three semesters after admission into the program. The examination shall cover graduate courses that the student has completed and basic undergraduate topics.

- Complete courses in the plan of study developed by the student advisory committee on the basis of the qualifying examination. A minimum of 90 credits of graduate work must be earned, including all course requirements listed for the Master of Science in Polymer Engineering degree.

- Pass a candidacy examination which may be taken after 50 percent of the course work specified in the plan of study has been completed.

- Pass an oral examination in defense of the dissertation.

**MASTER'S DEGREE**

Students may pursue Master of Science degrees in either Polymer Science or Polymer Engineering.

**Master of Science in Polymer Science**

- A minimum of 24 credits in appropriate courses in biology, chemistry, mathematics, physics, polymer science and engineering as prescribed by the advisory committee:

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<td>9871:703</td>
<td>Free Radical Reactions in Polymer Science</td>
</tr>
<tr>
<td>9871:705</td>
<td>Ionic and Monomer Initiation Reactions</td>
</tr>
</tbody>
</table>

- Completion of 13 credit hours of elective courses appropriate to each student's area of interest.

- Completion of a research project (9871:699) and the resulting 6 credits.

- Attendances at and participation in seminar-type discussions scheduled by the department. Credits for participation in either polymer science or polymer engineering seminars do not apply toward the degree.

- Demonstrated competence in computer programming.

- At least 12 credits of graduate coursework and all thesis credits must be completed at the University.

**Master of Science in Engineering (Polymer Engineering Specialization)**

The major emphasis of the graduate program in polymer engineering are in polymer processing, engineering performance and structural and rheological characteristics of polymers.

The academic program requires the completion of 33 credits: 12 credits of core courses, 3 credits of approved mathematics courses, 6 thesis credits, and 12 credits of approved electives.

- Polymer engineering core:

  - 9841:601 Structural Characterization of Polymers with Electromagnetic Radiation: 3 credits
  - 9841:621 Rheology of Polymers: 3 credits
  - 9841:622 Analysis and Design of Polymer Processing Operations I: 3 credits
  - 9841:623 Engineering Properties of Solid Polymers: 3 credits
  - 9841:641 Polymeric Materials Engineering Science: 2 credits

- Total: 12 credits

- Polymer engineering electives:

  - 9841:600 Polymer Engineering Seminar: 1 credit
  - 9841:602 Analysis and Design of Polymer Processing Operations II: 3 credits
  - 9841:642 Engineering Aspects of Polymer Colloids: 3 credits
  - 9841:651 Polymer Engineering Laboratory: 2 credits
  - 9841:656 Polymerization Reactor Engineering: 3 credits

- Approved engineering and science electives (a minimum of 3 credits of approved science or mathematics required):

  - 3345:691 Advanced Mathematics: 3 credits
  - 4200:661 Advanced Engineering Materials: 3 credits
  - 4200:662 Continuum Mechanics: 3 credits
  - 9871:613 Polymer Science Laboratory: 3 credits
  - 9871:676 Polymer Structure and Characterization: 2 credits
  - 9871:686 Polymer Thermodynamics: 2 credits

- Thesis: 6 credits

- Requirements:

  - Polymer Engineering Core: 12 credits
  - Approved Electives: 12 credits
  - Approved Mathematics: 3 credits
  - Thesis: 6 credits

- Total: 33 credits

- Attendance at and participation in department seminars as directed by the advisory committee is required.
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 provide knowledge in closely related fields or to extend a master's degree in 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 5600-....

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.

ADDITIONAL COUNSELING

David M. Weis, Ph.D., Department Chair
This certificate program represents specialty training in addiction counseling. The curriculum emphasizes the emotional foundations for theory, assessment, treatment planning and intervention with addictive disorders. Each student will complete an internship and participate in addiction research. This program will be of special interest to graduate students, and graduate degree professionals in counseling or related behavioral sciences such as psychology, social work, and nursing.

Admission
Persons are eligible for admission to the Graduate Certificate Program in Addiction Counseling if they are currently enrolled in a master's degree program in counseling or a closely related field or are already hold a master's degree in a closely related field. To participate in the program the student should:

- Be formally admitted to The University of Akron as a degree seeking or a special non-degree graduate student.
- Make written application to the program to the Counselor Education Admissions Committee in the Department of Counseling and Special Education.
- Receive written notification for admission from the Counselor Education Admissions Committee.
- Consult with the Counselor Education Internship Coordinator to plan for an internship in an appropriate addiction counseling setting.

Requirements
5600:670 Addiction Counseling I: Theory and Practice 3
5600:732 Addiction Counseling II: Assessment and Treatment Planning 3
5600:734 Addiction Counseling III: Models and Strategies of Treatment 3
5600:685 Internship in Counseling 6-7
Total credit hours 15-16

APPLIED POLITICS

John C. Green, Ph.D., Director
The Ray C. Bliss Institute and the Department of Political Science have combined to offer a Certificate Program in Applied Politics for graduate students. The Certificate Program in Applied Politics offers course work in the history, organization and management of campaigns intended to influence the outcome of political decisions. Working from a set of core courses, students are allowed to concentrate in the area of applied politics of greatest interest-campaigns, communications, lobbying, political parties, etc. Believing that democracy is best served by having active and informed citizens, the certificate is designed for all students, no matter what their degree program as long as they have a deep interest in political studies.

Requirements
Persons are eligible for admission to the Certificate Program in Applied Politics if they have been admitted to study as full-time students, special, or non-degree 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 chair/director of the department in which they are enrolled. Students shall seek admission to this program by filing an application with the Bliss Institute. The student shall schedule courses with the assistance of an advisor at the earliest possible time.

Core Courses (required-12 credits)
3700:570 Campaign Management I 3
3700:571 Campaign Management II 3
3700:672 Seminar: Political Influence and Organizations 3
3700:695 Internship in Government and Politics 3

Electives:
Six credits selected from the following (at least 3 credits must be from 3700:502, 540, 572, 573, 574, 575, 576, or 630):
3700:502 Politics and the Media 3
3700:548 Survey Research Methods 3
3700:572 Campaign Finance 3
3700:573 Voter Contact and Elections 3
3700:574 Political Opinion, Behavior and Electoral Policies 3
3700:575 American Interest Groups 3
3700:576 American Political Parties 3
3700:580 Seminar: National Politics 3

Additional 3 credits from above or from approved courses from Political Science, Communication or other departments. Students must maintain at least a 3.0 average in these courses for the certificate.

Certificate
Political science majors will, upon completion of the program, be awarded an M.A. degree in Political Science with a Certificate in Applied Politics. Majors in other disciplines will have the Certificate noted on their permanent record.

CASE MANAGEMENT FOR CHILDREN AND FAMILIES

Helen K. Clerminshaw, Ph.D., Coordinator
Program
This certificate program is a special course of study which can be added to any graduate degree program. It may also be completed by a non-degree graduate student with special permission from the director of the Center for Family Studies. This certificate represents a concentration in theoretical and practical knowledge gained through collaborative cross-systems case management for children and families in the context of community-based services. This course of study promotes collaboration among disciplines and services.

Admission
To participate in the program the student should:

- Be formally admitted to The University of Akron as a postbaccalaureate, graduate or non-degree graduate student.
- Make written application to the program and receive written notification of admission from The Center for Family Studies.

Requirements
Core:
Students should successfully complete all three of the core courses listed below. However, the first two courses plus three hours of electives must be completed prior to the student's enrollment in the practicum course.

3700:561 Case Management for Children and Families I 3
3700:562 Case Management for Children and Families II 3
3700:563 Practicum in Cross-Systems Case Management for Children and Families 3

Electives:
Students must successfully complete six credits of coursework selected from the various departmental courses listed below.

- Family Economics and Family Policy

3700:561 Family Life Patterns in the Economically Deprived Home 3
3700:502 Adolescence in the Family Context 3
3700:540 Family Crisis 3
3700:546 Culture, Ethnicity and the Family 3
3700:602 Family in Life-Span Perspective 3
3700:607 Family Dynamics 3
3700:610 Child Development Theories 3
3700:651 Family and Consumer Law 3
3700:695 Development in Infancy and Early Childhood 3
**COMPOSITION**

Martin McKoski, Ph.D., Director

**Requirements**

To be eligible for the certificate in composition, a person must be admitted to the University as a graduate student (with either full or provisional status). An eligible person interested in the program should contact the program director. Five courses in composition or linguistics are required. Other appropriate English courses in composition or linguistics may be substituted at the discretion of the program director.

**Required Courses:**

- 3300:670 Seminar: Theory and Teaching of Basic Composition 3
- 3300:671 Theory of Composition 3
- 3300:673 Seminar Research Methodologies in Composition 3

**Optional Courses:**

- 3300:570 History of English Language 3
- 3300:571 U.S. Diacritics: Black and White 3
- 3300:589 Seminar in English Grammar: Structures of Modern English 3
- 3400:575 Theory of Rhetoric 2
- 3500:569 Seminar in Sociolinguistics 3
- 3500:670 Modern Linguistics 3
- 3600:689 Seminar in English: Stylistics 3
- 3600:699 Seminar in English: Contrastive Linguistics 3

**DIVORCE MEDIATION**

Helen Claminshaw, Ph.D., Coordinator

**Requirements**

This graduate certificate program in divorce mediation requires a minimum of 15 graduate credits dependent upon previous educational background. The program has been designed to serve the practicing or prospective divorce mediator.

All applicants to the program should have previously earned a law degree or a bachelor’s degree (at minimum) in the behavioral sciences, such as psychology, social work, counseling, and marriage and family therapy, or an education degree. Applicants planning to pursue the certificate must apply to the Center for Family Studies and the Graduate School for admissions as non-degree students. Persons currently working toward a doctorate or J.D. at the University may participate in the certificate program as a cognate or minor. In this case, students must receive permission from their academic department as well as admission from the Center for Family Studies. Since the educational preparation prior to entry to this program will vary widely, the selection of courses within the certificate will vary among the participants. However, all students are expected to complete the core courses in addition to 10 credit hours selected from among several disciplines related to divorce mediation.

**Core:**

- 1620:611 Divorce Mediation 3
- 1630:612 Divorce Mediation Practicum 2

**Select at least one from each area:**

- **Law**
  - 6300:638 Family Law 3
  - 3400:651 Family Consumer Law 2

- **Accounting**
  - 6200:621 Financial Accounting 3
  - 3200:621 Accounting for Lawyers 2

- **Family**
  - 5600:655 Marriage and Family Therapy Theory and Techniques 3
  - 5600:667 Mental Health Therapy 3
  - 7400:607 Family Dynamics 3

**Electives:**

Students who have already completed coursework in Law, Accounting or Family may select from courses listed below:

- 5600:647 Career Counseling 3
- 5600:659 Systems Theory in Family Therapy 3
- 7400:640 Family Crisis 3
- 7400:690 Family and Divorce 3
- 7400:692 Family in Life Span Perspective 2
- 5200:684 Alternate Dispute Resolution 3

**GERONTOLOGY**

Harvey Sterns, Ph.D., Director
Isadore Newman, Ph.D., Associate Director
Terry H. Albanese, Ph.D., Program Coordinator

**Gerontology Certificate Program; Practicum Coordinator**
Jerome Kaplan, Ph.D., Program Coordinator
Nursing Home Administrator Program

**Requirements**

This certificate program is a special course of study in gerontology that complements graduate degree programs in various departments and colleges throughout the University. Individuals who are 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 for Life-Span Development and Gerontology will oversee this certificate program and certify through the director of the Institute that all requirements for the certificate have been completed.

A sequence of study is available in Nursing Home Administration through the Institute. The undergraduate 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 courses available from the Institute or the Office of Geriatric Medicine and Gerontology, NEOLCOM.

**Admission**

To participate in the program at the graduate level, a student must:

- Obtain admittance to The University of Akron Graduate School.
- Submit an application to the program countersigned by the student’s major academic advisor.
- Participate in an interview with the Director or a designated faculty member of the Institute for Life-Span Development and Gerontology.
- Consult with the director or a designated faculty member to formulate a program of study.
- Receive written notification for admission from the director of the Institute for Life-Span Development and Gerontology.

**Program**

Minimum: 18 credits

**Core:**

- 3000:680 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
- 3000:695 Practicum/Internship 3
- 3000:695 Research Methods Course 3

**Electives:**

- 3000:696 Retirement Seminar 2
- 3000:659 Workshop - Women: Middle and Later Years 2
- 3000:690 Workshop - Aging: Research and Intervention 2
- 3700:650 Policy Problems: Aging-** 3
- 3700:620 Psychology Core II: Developmental, Perceptual, Cognitive 4
- 3750:727 Psychology of Adulthood and Aging 4
- 3900:678 Social Gerontology 3
- 3850:681 Cross Cultural Perspectives in Aging 3
- 5400:651 Educational Gerontology Seminar 3
- 5400:661 Current Issues in Higher Education: Life-Span and Community Education 3
- 6500:687 Graduate Seminar in Health Services Policy and Administration 2
- 6500:683 Health Services Management (with permission) 3
- 7400:603 Family Relationships in Middle and Later Years 3
- 7400:650 Social Needs and Services for Older Adults and Aging 3

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*From student's home department
** Select a minimum of three courses. A student is required to take two of the three electives outside the major or degree department. One credit workshop may be included as an elective, with permission.
***Offered every other year
**HOME-BASED INTERVENTION THERAPY**

Dianne Brown-Wright, Ph.D., Coordinator

**Program**

This certificate program is a special course of study along with undergraduate and graduate degree programs in various departments and colleges throughout the University. Undergraduate students may enroll in the course upon graduation in their degree program. Students who already hold undergraduate or graduate degrees may also pursue the certificate. Students with an undergraduate degree who do not seek a graduate degree may pursue the certificate in the postbaccalaureate program. Students who already hold a graduate degree may be admitted to the program as non-degree students. Students pursuing graduate degrees will receive their graduate certificate upon completion of the requirements for their graduate degree. The program represents a concentration in current theoretical knowledge and practice for home-based intervention. It adds another dimension to the knowledge and skills a student is able to offer in the many professional relations that relates to the families and their families. This course of study coordinates interdisciplinary training of personnel in home-based intervention and helps to meet the need for trained professionals in home-based intervention.

**Admission**

To participate in the program at the graduate level, the student should:
- Be formally admitted to The University of Akron Graduate School.
- Complete the graduate program.
- Have an interview with the Director of the Certificate Programs in Home-Based Intervention.
- Receive written notification from the Director of the Certificate Programs in Home-Based Intervention.
- Ask for the director of the Certificate Programs in Home-Based Intervention to formulate a program of study.

All students enrolled in the home-based certificate programs will enroll in the core course in Home-Based Intervention. Students enrolled in the undergraduate and postbaccalaureate program will enroll in the courses at the undergraduate level. Students admitted to the Graduate School as degree seeking or non-degree students will enroll in graduate courses. Graduate students enrolled in the core courses at the 500 level will have an additional graduate level project.

Students will complete a minimum of 18 hours of graduate credits in core and elective coursework. In order to earn the interdisciplinary certificate in Home-Based Intervention, the student must complete the following requirements within six years after beginning the program.

**Theoretical Frameworks:**
- Systems Theory
  - 350:620 General Systems Theory
- Development Theory
  - 350:512 Socialization: Child to Adult
- Family and Marriage Therapy: Theory and Techniques
  - 5600:600 Family Dynamics
- 5600:610 Child Development Theories
- 5600:615 Developmental Parent-Child Interactions
- 5600:620 Child Development Theories
- 5600:650 Developmental Parent-Child Interactions
- 5600:660 Developmental Parent-Child Interactions
- 5600:670 Family and Marriage Therapy: Theory and Techniques
- Social Work with Families
  - 7750:530 Social Work with Families

**Elective Courses (3 credits):**
Select one course from three different disciplines. (Must be outside student's major degree area)

**Special Skill Areas:**
- Psychology
  - 3750:650 Psychological Disorders and Children
  - 3750:781 Theories of Personality
- Sociology
  - 3850:630 Sociology of Mental Health
- Human Ecology
  - 3850:630 Sociology of Mental Health
- Family and Health (Special Topics)
  - 3850:760 Family and Health (Special Topics)
- Counseling
  - 5600:520 Counseling Problems Related to Life/Death
  - 5600:620 Multicultural Counseling
  - 5600:620 Multicultural Counseling
- Human Sexuality
  - 5600:620 Human Sexuality
- Special Education
  - 5610:540 Developmental Characteristics of Exceptional Individuals
  - 5610:568 Developmental Disabilities and Behavioral Disorders
  - 5610:580 Working with Parents of MSPR Individuals

**Eligibility Courses:**

- Students must have completed at least 9 credits of coursework in theoretical frameworks from their discipline or related areas follows.

- Minimal of 18 hours of graduate credits in core and elective coursework.
- In order to earn the interdisciplinary certificate in Home-Based Intervention, the student must complete the following requirements within six years after beginning the program.

**Core Courses:**

- 1820:503 Home-Based Intervention Theory
- 1820:604 Home-Based Intervention Techniques and Practice
- 1820:605 Home-Based Intervention Internship

**Eligibility Courses:**

- Students must have completed at least 9 credits of coursework in theoretical frameworks from their discipline or related areas follows.
The program will require the completion of 16 graduate credits in a single area or in several areas in the urban field. Upon the completion of the program, a certificate in Urban Studies. The core program requires the successful completion of a plan of study which must include a minimum of 16 credits of work in existing courses offered by the Department of Public Administration and Urban Studies. The core program and areas of study are listed below. Electives will be chosen in consultation with the advisor from the approved list of courses. Courses offered by the school will be acceptable if they are urban related and will specifically contribute to the student's objectives.

**Core:**
- 3980:600 Basic Analytical Research 3
- 3980:601 Advanced Research and Statistical Methods 3

**Options:**
- Geography/Urban Planning
  - 3350:670 Introduction to Planning Theory 3
  - 3350:600, 1 Seminar: Urban Planning Design 3
  - 3350:600, 1, 2 Seminar: Planning Theory and Innovation Elective(s) 4

**Public Administration**
- 3980:611 Introduction to the Profession of Public Administration 3
- 3980:640 Fiscal Analysis 3
- 3980:643 Introduction to Public Policy Elective(s) 4

**Urban Research Methods**
- 3980:670 Research for Futures Planning 3
- 3980:673 Computer Applications in Public Organizations Elective(s) 4

**Urban Service Systems**
- 3980:620 Social Services Planning 3
- 3980:621 Urban Society and Service Systems 3
- 3980:671 Program Evaluation in Urban Studies Elective(s) 4

**Urban Studies**
- 3982:602 History of Urban Development 3
- 3980:6— Elective(s) 10

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**PARENT AND FAMILY EDUCATION**

Helen K. Clemishaw, Ph.D., Coordinator

**Program**

This certificate program is a special course of study which can be added to any graduate degree program. It may also be completed by a non-degree graduate student with special permission from the director of the Center for Family Studies. This certificate represents a concentration in theoretical and practical knowledge in parent and family education for community-based services. This course of study promotes collaboration among disciplines and services.

**Admission**

To participate in the program the student should:

- Be formally admitted to The University of Akron as a post-baccalaureate, graduate or non-degree graduate student.
- Make written application to the program and receive written notification of admission from The Center for Family Studies.

**Requirements**

- Core:
  - Students must successfully complete all three of the core courses listed below. However, the first two courses plus three hours of electives must be completed prior to the student's enrollment in the practicum course.
  - 7400:504 Family Life Patterns in the Economically Deprived Home 3
  - 7400:504 Family Life Patterns in the Economically Deprived Home 3
  - 7400:504 Family Life Patterns in the Economically Deprived Home 3

- Electives:
  - Students must successfully complete six credits of coursework selected from among the various departmental courses listed below. These credits shall be chosen from departments outside the student's discipline.
  - Home Economics and Family Ecology
    - 7400:504 Family Life Patterns in the Economically Deprived Home 3
    - 7400:504 Family Life Patterns in the Economically Deprived Home 3
  - Child Development Theories 3
  - Child Development Theories 3
  - Child Development Theories 3
  - Social Work
    - 7750:510 Minority Issues in Social Work Practice 3
    - 7750:552 Social Work and Mental Health 3
    - 7750:554 Social Work in Juvenile Justice 3
  - Nursing
    - 7250:551 Introduction to Urban Services 3
    - 7250:551 Introduction to Urban Services 3
    - 7250:551 Introduction to Urban Services 3
  - Psychology
    - 3750:520 Psychological Disorders of Children 4
    - 3750:520 Psychological Disorders of Children 4
    - 3750:520 Psychological Disorders of Children 4
  - Sociology
    - 3850:512 Socialization Child to Adult 3
    - 3850:512 Socialization Child to Adult 3
    - 3850:512 Socialization Child to Adult 3
  - Educational Foundations
    - 5100:548 Individual and Family Development Across the Lifespan 3
    - 5100:548 Individual and Family Development Across the Lifespan 3
    - 5100:548 Individual and Family Development Across the Lifespan 3
  - Special Education
    - 5610:541 Educational Characteristics of Exceptional Individuals 3
    - 5610:541 Educational Characteristics of Exceptional Individuals 3
    - 5610:541 Educational Characteristics of Exceptional Individuals 3
  - Multicultural Education
    - 5630:582 Characteristics of Culturally Diverse Populations 3
    - 5630:582 Characteristics of Culturally Diverse Populations 3
    - 5630:582 Characteristics of Culturally Diverse Populations 3
  - Educational Administration
    - 5700:604 School-Community Relations 3
    - 5700:604 School-Community Relations 3
    - 5700:604 School-Community Relations 3

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**MID-CAREERS PROGRAM IN URBAN STUDIES**

Gary M. Geppert, Ph.D., Director

**Requirements**

The program will require the completion of 16 graduate credits in a single area or in several areas in the urban field. Upon the completion of the program, a certificate will be granted.

**Admission**

A student must satisfy the requirements for entrance in graduate programs or have a bachelor's degree and the equivalent of five years' experience in a professional, administrative or leadership position, in which case the student shall be admitted as a non-degree student. A student may wish to pursue additional electives. However, a student admitted to this program will be limited to 20 credits. If the student wishes to pursue more than 20 credits, the student must be admitted to the M.A. program in urban studies.

**Program**

The Mid-Careers Certificate Program in Urban Studies will require the successful completion of a plan of study which must include a minimum of 16 credits of work in existing courses offered by the Department of Public Administration and Urban Studies. The core program and areas of study are listed below. Electives will be chosen in consultation with the advisor from the approved list of courses. Courses offered by other departments will be accepted if they are urban related and will specifically contribute to the student's objectives.

**Core:**
- 3980:600 Basic Analytical Research 3
- 3980:601 Advanced Research and Statistical Methods 3

**Options:**
- Geography/Urban Planning
  - 3350:670 Introduction to Planning Theory 3
  - 3350:600, 1 Seminar: Urban Planning Design 3
  - 3350:600, 1, 2 Seminar: Planning Theory and Innovation Elective(s) 4

**Public Administration**
- 3980:611 Introduction to the Profession of Public Administration 3
- 3980:640 Fiscal Analysis 3
- 3980:643 Introduction to Public Policy Elective(s) 4

**Urban Research Methods**
- 3980:670 Research for Futures Planning 3
- 3980:673 Computer Applications in Public Organizations Elective(s) 4

**Urban Service Systems**
- 3980:620 Social Services Planning 3
- 3980:621 Urban Society and Service Systems 3
- 3980:671 Program Evaluation in Urban Studies Elective(s) 4

**Urban Studies**
- 3982:602 History of Urban Development 3
- 3980:— Elective(s) 10
PUBLIC POLICY

Stephen C. Brooks, Ph.D., Chairman, Coordinating Committee

Program

This program will assist the person in understanding, formulating and implementing decisions in the public realm. A person who is interested in government service, administration of publicly supported institutions and the teaching of government at the college level should find such an interdisciplinary program to be of great value.

Admission

Persons are eligible for admission to the Graduate Certificate in Public Policy Program if they have been admitted to graduate study as non-degree students in the departments of economics, political science or sociology, or are pursuing a master's or doctoral degree in one of those three departments. Students who are pursuing a graduate degree in other departments at the University may be admitted upon the recommendation of the chair of the department in which they are enrolled.

Requirements

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

- Economics (choose one)
  2350:530 Human Resource Policy 3
  3270:606 Public Finance 3
  3250:665 Seminar on Economic Planning 3

- Political Science (choose one)
  3170:541 The Policy Process 3
  3170:642 Methods of Policy Analysis 3
  3100:668 Seminar in Public Policy Agendas and Decisions 3
  3170:670 Seminar in the Administrative Process 3

- Sociology (choose one)
  3850:613 Sociology of Program Evaluation and Program Improvement 3
  3850:679 Political Sociology 3

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

Each student shall complete a scholarly paper dealing with public policy under the direction of a graduate faculty member in the departments of economics, political science or sociology. The student shall enroll for three credits in one of the following courses: 3250:697/698 Reading in Advanced Economics, 3700:697 Independent Research and Readings or 3850:697 Readings in Contemporary Sociological Literature. The student's paper shall be evaluated by an interdisciplinary committee consisting of graduate faculty from at least two of the previously mentioned departments.

All persons enrolled in the Graduate Certificate Program in Public Policy must successfully complete 3700:698 Internship in Political Science, a course which will permit a student to gain experience working with public officials, government agencies, political parties or interest groups. A student will normally enroll in this course after having completed at least 12 semester credits of work relating to public policy. A person with extensive administrative or governmental experience may be permitted, with the approval of the student's adviser, to substitute another course dealing with public policy in place of the Internship in Political Science.

At least two of the credits earned for this certificate must be in 600-700-level courses. No more than three courses in which the student enrolls, of the seven required for the Graduate Certificate in Public Policy, may also apply toward meeting requirements for a graduate degree at The University of Akron. The student must maintain at least a "B" (3.0) average in course work for the certificate.

Administration of the Program

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

TEACHING ENGLISH AS A SECOND LANGUAGE†

Kenneth J. Pakerham, Ph.D., 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 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

- 3300:573 Seminar in Teaching ESL: Theory and Method 3
- 3300:589 Seminar in English: Grammatical Structures of English 2-3
- 5630:581 Multicultural Education in the U.S.** 3
- 3300:599 Seminar in English: Sociolinguistics** 2-3
- 5630:587 Techniques for Teaching ESL in the Bilingual Classroom 4

†The awarding of this certificate is not contingent on 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.

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

TECHNICAL AND SKILLS TRAINING

Susan J. Olson, Ph.D., Coordinator

This certificate program in technical and skills training is a special course of study within the College of Education for undergraduate and graduate programs to serve the practicing or prospective business and/or industrial/technical educator.

Persons are eligible for admission to the Certificate in Technical and Skills Training if they have been admitted to study as special, non-degree or full-time students in any department of the University. Undergraduates will earn the certificate upon graduation from their degree program. Individuals who already hold undergraduate or graduate degrees may also pursue this certificate. Students with an undergraduate degree who do not seek a graduate degree may pursue the certificate at the postbaccalaureate program. Students who already hold a graduate degree or do not wish to pursue a graduate degree may be admitted to the program as a non-degree graduate student. Students pursuing graduate degrees will receive their graduate certificate upon completion of the requirements for their graduate degree. Students enrolled in the undergraduate and post-baccalaureate program will enroll in the courses at the undergraduate level. Students admitted to the Graduate School as degree seeking or non-degree students will enroll in graduate courses. Graduate students enrolled in the core courses at the 500 level will have an additional graduate level project.

Those formally admitted to the University of Akron and meeting the Certificate entrance requirements may pursue the Certificate in Technical and Skills Training. Students shall seek admission to this program by filing an application with the program coordinator. The student will schedule courses with the assistance of an advisor in the Technical Education Program.

Those who have completed either a BS or MS in Technical Education at The University of Akron prior to the Fall of 1984 must seek advisor approval before pursuing the Certificate. Six hours of prior technical education coursework may be accepted towards the certificate and all accepted coursework must be no older than six years at the time of completion of the certificate. Only graduate credit may be used for a graduate certificate and only undergraduate credit may be used for an undergraduate or postbaccalaureate certificate. Any course substitutions must be made with the advisor's prior written approval. Students must maintain at least a 3.0 average in certificate coursework to receive this certificate. Enrollment will be limited to space available. All those applying for the undergraduate certificate must have completed at least 60 semester hours with a 2.75 GPA. For those applying for the graduate certificate, students must have a 2.75 GPA in their completed undergraduate degree. All coursework must be completed within six years.
Admission
To participate in the program the student should:

- Be formally admitted to The University of Akron as an undergraduate, postbac-
colaureate or graduate student.
- Make written application to the program coordinator.
- Receive written notification from the program coordinator.
- Consult with a Technical Education Program Advisor to formulate a program of
study.

Requirements
Minimum: 18 Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5400:500</td>
<td>The Postsecondary Learner</td>
<td>3</td>
</tr>
<tr>
<td>5400:515</td>
<td>Training in Business and Industry</td>
<td>3</td>
</tr>
<tr>
<td>5400:530</td>
<td>Systematic Curriculum Design for Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>5400:635</td>
<td>Instructional Techniques in Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>5400:690</td>
<td>Internship in Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:520</td>
<td>Introduction to Instructional Computing</td>
<td>3</td>
</tr>
</tbody>
</table>

The Internship is the last course taken. This course can not be taken until all other certificate courses have been completed with a 3.0 GPA or better.
Research Centers and Institutes

University Research Council:

C. S. Chen, Ph.D., Interim Associate Vice President of Research and Technology Transfer (interim chair)
Ted Mall, J.D., Vice President and General Counsel; Secretary, Board of Trustees
Frank Kelley, Ph.D., Dean, College of Polymer Science and Polymer Engineering
Roger Creel, Ph.D., Dean, Buchtel College of Arts and Sciences
Charles Dye, Ph.D., Dean, Graduate School
Max Willis, Ph.D., Associate Dean, Research and Graduate Studies, College of Engineering
Virginia Gunn, Ph.D., Professor, Home Economics and Family Ecology
Larry Martin, Ph.D., Associate Professor, English
Gerald Parker, Director, Research Services and Sponsored Programs (secretary)

The University Research Council is responsible for encouraging, supporting, and making recommendations pertaining to sponsored and contractual research carried out at the University's departments, centers, and institutes. The council consists of the Associate Vice President for Research and Technology Transfer, the Director of Research Services and Sponsored Programs, representatives of the Faculty Senate, various college deans and institute directors, and General Counsel. Sponsored research activities on campus are coordinated by the Interim Associate Vice President for Research and Technology Transfer and the Director of Research Services and Sponsored Programs.

Ray C. Bliss Institute of Applied Politics

John C. Green, Ph.D., 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, Ray C. Bliss, are: to give all citizens, and particularly students, 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 comprehensive understanding of political organizations and the requirements for their effectiveness; and to improve understanding of continuity and change in American political institutions.

Institute for Biomedical Engineering Research

Stanley Rutgers, Ph.D., Director

This institute was established in 197/9 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 Olson 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

Annabelle M. Fos, Ph.D., Interim 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 1979, 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 family 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.

Center for Family Business

Susan C. Hanion, D.B.A., Director

The Center for Family Business provides seminars, conferences and round table groups to help business owners address problems unique to family enterprises. The Center seeks to increase the survival rate of family-owned businesses by focusing attention on the special challenges inherent in multigenerational family enterprises.

Center for Family Studies

Helen K. Clemens, Ph.D., Director

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 5 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.

The Center offers certificates in the following specialty areas: Divorce Mediation and Home-Based Intervention. Please refer to the sections on Certificate Programs in this Bulletin or the General Bulletin for further information.

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, Ph.D., 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.
Fisher Institute for Professional Selling
Jon M. Hayes, Ph.D., Director
James T. Strong, Ph.D., Associate Director
The Fisher Institute for Professional Selling was founded in 1969. Its mission is to enhance the image of the sales profession, to promote professional selling and sales management as a rewarding lifetime career, to provide quality sales training, and to advance the knowledge of professional selling through the support of applied research.

William and Rita Fitzgerald Institute for Entrepreneurial Studies
James E. Inman, LL.M., Director
In 1985, a generous gift from William and Rita Fitzgerald created the Fitzgerald Institute for Entrepreneurial Studies in the College of Business Administration. The Institute was established to promote the principles of free enterprise and entrepreneurial spirit and practices both within the University’s curriculum and throughout the business community. The Fitzgerald Institute focuses on the development of curriculum appropriate for both new ventures and the entrepreneurial development and growth of existing businesses. The Institute provides the needed link between the University and the community of entrepreneurs critical to business development in the future. The Fitzgerald Institute also sponsors several outreach projects, such as the Center for Family Business, The Center for Small Business, and Students in Free Enterprise.

Institute for Futures Studies
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 Futures Studies and Research was established in 1976, 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. Through its relationship with the Department of Public Administration and Urban Studies and The Center for Urban Studies, the Institute has organized and produced several books relating to urban issues and the future including the 1990 publication, Cities in a Global Society and the forthcoming The Future of Urban Environments. It has also sponsored major conferences on George Orwell, Althus Xury, and Edward Bellamy in cooperation with the Ohio Humanities Council.

Center for Global Business
James W. Barnett, B.B.A., Director
The University of Akron received special funding from the State of Ohio to expand its offerings of undergraduate and graduate degree programs in international business. Thus, the College of Business Administration created the Institute for Global Business, which coordinates both credit and non-credit programming in international business. The Institute also develops short courses and seminars designed to help improve the international competitive-ness of area business.

Institute for Life-Span Development and Gerontology
Harvey L. Sterns, Ph.D., Director
Isadore Newman, Ph.D., Associate Director
Frances Snyder-Warner, M.A., Program Coordinator
Gerontology Certificate Program
Lawrence H. Albani, Ph.D., Practioner Coordinator
Jermyn Kaplan, Ph.D., Program Coordinator
Nursing Home Administrators Program
The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit and certificate programs in gerontology at the undergraduate and graduate levels. In addition, the 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 and Personnel Option with a Certificate in Gerontology.

Faculty fellows at the institute representing 23 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. 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
Elizabeth Kinion, Ed.D., R.N., Director
The Center for Nursing is a part of the University of Akron's College of Nursing. It is an education and practice center for College of Nursing faculty and students as well as faculty and students from other health care disciplines on campus.

Since 1981 the Center for Nursing has provided wellness services to campus students, faculty and staff as well as outreach services to community residents of all ages. Services include health assessments and nursing physicals, stress management and self-care assistance, family and group education and support sessions. Community outreach to vulnerable populations is a major emphasis of the center.

Center for Peace Studies
For information, contact the office, 201 Leigh Hall, (330) 972-6513.
The Center for Peace Studies provides students with the opportunity for an interdisciplinary program 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, and special campus programs, and research projects. It also collaborates with community organizations and peace centers on other campuses.

Institute for Policy Studies
Jessie F. Marquette, Ph.D., Director
AnnieMarie Scharsbrick-Hauser, Ph.D., Associate Director
Richard W. Stratton, Ph.D., Interim Associate Director
The Institute for Policy Studies houses a number of programs, located in two units, the Urban and Policy Research Division and Institutional Research. The Urban and Policy Research Division houses the Akron Survey Research Center with responsibility for external grant and contract research, research support for the Urban University Linkage Program, sponsored research for faculty, and internal University surveys. The research facility is equipped to facilitate telephone interviewing, mail surveys, focus group administration, interview studies, and personal interviews, database analysis, and computer assisted data entry and multiple method studies. Most of the work conducted at the Urban and Policy Research Division is on behalf of government or nonprofit agencies. Institutional professional staff are available for consultation in the development of grant proposals and budgets.

The Urban and Policy Research Division (UPRD) also has responsibility for the administration of the Ohio Board of Regents' Urban University Program (UUP) which links eight state universities to collaborate on the identification of urban problems and propose solutions designed to improve urban regions in Ohio. The University of Akron Urban University Program, in addition to the collaborative mission of the Ohio UUP coordinates community oriented research and policy analysis. The UPRD also houses an Ohio State Data Center and coordinates GIS activities with the Department of Geography and Planning.

The Institutional Research Division has responsibility for research and analysis of University operations and assessment. The Institutional Research Division mission is to ensure the timely submission of all appropriate Ohio Board of Regents reports and to coordinate the development and maintenance of the appropriate data structures for the continuing analysis of university operations and assessment. The Institutional Research Division also maintains a regularly updated web site of institutional information.
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 characterizations. 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.

The Maurice Morton Institute of Polymer Science
Frank Harris, 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.

Microscale Physiochemical Engineering Center (MPEC)
George G. Chase, Ph.D., Director
The Microscale Physiochemical Engineering Center (MPEC) was established in 1996 by faculty with a common research interest in materials composed of very small particles. These small particles occur, for example, in heterogeneous catalysts, fluid/solid separations, paper-pulp processing, soil remediation, waste water decontamination, and solid transport.

The unique feature of MPEC is the ability to form multi-disciplinary teams of faculty and graduate students to solve specific industrial problems.

The Center hosts an annual conference, promotes networking, provides a forum for industrial-university cooperation, and is a consortium of industrial sponsors for fundamental and applied research in microscale physiochemical engineering.

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 mini-pilot plant facilities.

The PRC aims at responding more positively to the needs of industries enhancing cooperation between the University and industries. Great opportunities are available for both graduate and undergraduate students to conduct practical research.

Center for Urban Studies
Nancy K. Grant, Ph.D., Director
The Center for Urban Studies (CUS) is The University of Akron’s oldest policy research and professional service unit. Established in 1966, the Center acts as a bridge between the University and the Akron community, Ohio and beyond in pursuit of the University’s urban mission. To meet the needs of urban communities, the Center engages in a wide variety of scholarly and applied research projects, research consultation, and information and data services.

Using the talents of faculty, researchers, support staff, and students, the Center explores important economic, social, and political issues; works with others to reach a better understanding of these issues; and assists groups and organizations actively engaged in problem solving, coalition building, or strategic planning.

This multidisciplinary approach encourages faculty and graduate student participation from all departments with an urban focus. A part of the Buchtel College of Arts and Sciences, the Center for Urban Studies provides the setting and facilities through which interested faculty and graduate students do become involved in urban research or professional service activities in 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 participation.

Center for Small Business
Jeffrey C. Ditto, Ph.D., Director
Established in 1973, the Center for Small Business (formerly the Small Business Institute) offers full management assistance counseling to area businesses through the utilization of senior scholars working as advisers under the supervision of the College of Business Administration faculty. Over 350 firms have been serviced by the Center since its founding.
SECTION SIX

Courses of Instruction
Course Numbering System*

INDEX

Interdisciplinary Programs
1800 Divorce Mediation
1820 Home-Based Intervention Therapy
1880 Medical Studies

Buchtel College of Arts and Sciences
3001 Women's Studies
3006 Institute for Lifespan Development and Gerontology
3010 Environmental Studies
3100 Biology
3110 Biology/NEOUCOM
3150 Chemistry
3200 Classics
3210 Greek
3220 Latin
3260 Economics
3300 English
3350 Geography and Planning
3370 Geology
3400 History
3450 Mathematics

College of Engineering
4200 Chemical Engineering
4300 Civil Engineering
4400 Electrical Engineering

College of Education
5100 Educational Foundations and Leadership
5190 Higher Education Administration
5200 Elementary Education
5250 Reading
5300 Secondary Education
5400 Technical and Vocational Education
5500 Physical Education

College of Business Administration
6200 Accountancy
6400 Finance
6500 Management

College of Fine and Applied Arts
7100 Art
7400 Home Economics and Family Ecology
7500 Music
7510 Musical Organizations
7620 Applied Music
7630 Communication

College of Nursing
8200 Nursing

College of Polymer Science and Polymer Engineering
9841 Polymer Engineering

* A more detailed explanation of the numbering system can be found in Section Two, "Course Numbering System," in this Bulletin.
Interdisciplinary Programs

DIVORCE MEDIATION
1800:

601 DIVORCE MEDIATION 3 credits
Prerequisites: Admission to the Graduate Certificate Program on Divorce Mediation. Overview of Divorce mediation process includes guidelines for negotiating separation and divorce agreements; division of personal and real property, support, custody, and future plans.

602 DIVORCE MEDIATION PRACTICUM 2 credits
Prerequisites: CT. Practical application of divorce mediation procedures. Review of strategies and ethical considerations.

HOME-BASED INTERVENTION THERAPY
1820:

503 HOME-BASED INTERVENTION THEORY 3 credits
Prerequisites: Admission to Certificate Program. Overview of home-based intervention to include philosophy and description of this programming as well as assessment of family, home and community environment.

504 HOME-BASED INTERVENTION TECHNIQUES AND PRACTICE 3 credits
Prerequisite: 503. Provides participants with the skills and theoretical knowledge needed for the home-based intervention process and the opportunity to apply knowledge in the family environment.

505 HOME-BASED INTERVENTION INTERNSHIP 3.5 credits
Prerequisite: 504. Allows students the opportunity to apply knowledge of home-based intervention in actual delivery process while working with families in their homes and supervised by experienced home-based interventionists.

MEDICAL STUDIES
1880:

501 SPECIAL TOPICS: MEDICAL EDUCATION 1.5 credits
May be repeated with a change of topic with a maximum of three credits toward graduation. Prerequisites: Undergraduate student status and permission. Selected topics in medical education offered by professionals. Intended to provide advanced undergraduate education for students and practitioners in the health sciences. Graded Credit/No Credit.

WOMEN'S STUDIES
3001:

180 FEMINIST THEORY 2 credits
Prerequisite: 3001/310. A survey of feminist theory in familiar settings; students will share the main currents in contemporary feminist theory in the years after 1960.

595 SPECIAL TOPICS IN WOMEN'S STUDIES 1.5 credits
May be repeated. Specialized texts and current issues in Women's Studies. Course content and 0.5 credits not limited to specific academic disciplines. May be repeated. No more than 3 credits toward graduation. May be repeated. No more than 3 credits toward graduation. May be repeated. No more than 3 credits toward graduation.

590 WORKSHOP 1.5 credits
May be repeated. Group meeting and seminar. May be repeated. May be repeated. May be repeated. May be repeated.

INSTITUTE FOR LIFE-SPAN DEVELOPMENT AND GERONTOLOGY
3006:

680 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 3 credits
Prerequisites: permission. The seminar program student must complete interdisciplinary issues in life-span development and gerontology. Guest speakers from various disciplines and services which have life-span development and gerontological components and from government and community agencies will present their research.

689 SPECIAL TOPICS 1.5 credits
Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology and gender. Emphasis is on original research materials, critical analyses and synthesis of empirical, theoretical and applied aspects.

688 RETIREMENT SPECIALIST 2 credits
An overview of issues related to the design and implementation of retirement planning and examination of life-span planning as employed by labor, business and education.
Buchtel College of Arts and Sciences

**BIOLOGY 3100:**

500 FOOD PLANTS
Prerequisite: 311 or permission of instructor. A survey of the plants useful for human food, including historic, structure, uses. 2 credits

521 TROPICAL FIELD BIOLOGY*
Prerequisite: 111/112 or equivalent. Ecology of coral reefs, tide pools, mangroves, coastal fishes, terns, frigate birds and iguana, island biogography. Taught at a field station in the tropics. 4 credits

522 CONSERVATION OF BIOLOGICAL RESOURCES*
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. 4 credits

524 FRESHWATER ECOLOGY*
Prerequisite: 4/4. Field laboratory study of lake ecosystems. Species composition of selected benthic, infaunal, community energetics, nutrient cycling. Limnological survey of a local lake. Laboratory. 3 credits

525 FRESHWATER ECOLOGY AND LABORATORY STUDIES
Prerequisite: 217 or permission. Lecturer-indexed laboratory studies of lake lakes, ponds, and reservoirs. Collection, identification, and ecology of aquatic plants and animals, especially phytoplankton, zooplankton and benthic organisms. 3 credits

526 APPLIED AQUATIC ECOLOGY*
Prerequisite: 217 or permission. Biological methods for assessing quality of natural waters. Emphasis given to use of benthic invertebrates as indices of water quality. Laboratory. 2 credits

528 BIOLOGY OF BEHAVIOR
Prerequisite: 217, 217 and 316. Behavioral basis of behavior: ethological theory, function, evolution and adaptativeness of behavior. May be taken without 474/572. 2 credits

529 BIOLOGY OF BEHAVIOR LABORATORY
Prerequisite: 217, 217 and 316. Laboratory. 2 credits

532 ADVANCED GENERAL BACTERIOLOGY
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. 3 credits

533 PATHOGENIC BACTERIOLOGY
Prerequisite: 331. Study of major groups of bacteria which produce infections in humans. The chemical properties of microorganisms which engender virulence and nature of host resistance. Laboratory. 4 credits

535 VIROLOGY
Prerequisite: 331. Physical, chemical, and biophysical properties of viruses including mechanisms of infection, genetics and tumor formation, methods of cultivation and identification. Laboratory. 4 credits

537 IMMUNOLOGY
Prerequisite: 331. Recommended: 432. Nature of antigens, antibody response and antigen-antibody reactions. Site and mechanism of antitoxin formation, hypersensitivity. Immunologic basis of medico-legal aspects of immunity and immune diseases considered. Laboratory. 4 credits

540 MYCOLOGY
Prerequisite: 112. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to humans. Laboratory. 4 credits

541 PLANT DEVELOPMENT
Prerequisite: 112 and one year of organic chemistry. Embryology and morphogenesis of plants in relation to physical, chemical, genetic and spatial factors. Laboratory. 4 credits

542 PLANT ANATOMY
Prerequisite: 112. Study and development of cells, tissues, organs and organ systems of seed plants. Laboratory. 4 credits

543 PHYSIOLOGY
Prerequisite: 110. Examination of the major groups of animals with emphasis on life histories and their relationship to all animal form and structure. Laboratory. 4 credits

545 PLANT MORPHOLOGY
Prerequisite: 112. Structure, reproduction, life cycles, ecology, evolution, economic significance of land plants, mushrooms, club-rot traces, weeds, ferns, horsetails, lilies, seed plants. Laboratory. 2 credits

546 PLANT PHYSIOLOGY
Prerequisite: 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. 3 credits

548 ECONOMIC BOTANY
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 extractions. 2 credits

551 GENERAL ENTOMOLOGY
Prerequisite: 112, 217. Structure, physiology, life cycles, economic importance characteristics of orders and major families of insects. Laboratory and parallel lectures. 4 credits

553 INSECTICIDE BIOLOGY
Prerequisite: 112. Insecticides, their classification, functional morphology, adaptive radiation and their history. A synergistic approach to urban, laboratory, and parallel lectures. 4 credits

556 PARASITOLOGY
Prerequisite: 112. 350/261 Principles of parasitism: host parasite interactions. Mortal human and veterinary parasitic diseases, and control measures. Laboratory and parallel lectures. 3 credits

558 VERTEBRATE ZOOLOGY
Prerequisite: 376 or permission. Biology of vertebrates, except birds - evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips. 4 credits

561 HUMAN PHYSIOLOGY
Prerequisite: 311 or graduate standing. Detailed study of the human body with special emphasis on cardiovascular, respiratory, renal and endocrine physiology. Laboratory. 4 credits

564 GENERAL AND COMPARATIVE PHYSIOLOGY
Prerequisite: 15 and one year of organic chemistry. Physiology of the major organ systems of animals with emphasis on mammalian homeostatic control. Prerequisite: 316 and 516. 4 credits

565 ADVANCED CARDIOVASCULAR PHYSIOLOGY
Prerequisite: 462 or 562 or permission. Study of cardiovascular mechanics involved in heart attack, stroke, fluid balance, hypertension and heart disease. Cooperative issues in each area will be examined and current research presented. 4 credits

566 VERTEBRATE EMRYOLOGY
Prerequisite: 152 or permission. A survey of the major vertebrates. The laboratory consists of dissections of representative vertebrates. Field and laboratory. 4 credits

568 THE PHYSIOLOGY OF REPRODUCTION
Prerequisite: 462/562 or permission. Study of the physiological mechanisms of reproduction throughout the animal kingdom with special emphasis upon mammalian endocrinological control. 4 credits

569 RESPIRATORY PHYSIOLOGY
Prerequisite: 464/564 or permission. Study of mechanisms determining gas exchange including mechanisms regulating ventilation, diffusion, and control systems. Emphasis is given to normal human lung function. (Clinical aspects are not considered in detail.) 4 credits

570 MOLECULAR BIOLOGY
Prerequisite: 211, 311. Fundamentals of molecular biology, including recombinant DNA technology, applications in biotechnology, medicine, and genetic engineering. Mediations of gene regulation. 4 credits

581 ADVANCED GENETICS
Prerequisite: 211. Nature of the gene, genetic coding, heredity, determination, mutation and genetic in populations. Laboratory and seminar. 3 credits

584 PHARMACOLOGY
Prerequisite: 311 recommended. College-level physiology. Interactions of drugs and systems involving 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. 3 credits

586 WORKSHOP IN BIOLOGY
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. 3 credits

593 BIOLOGICAL PROBLEMS
Prerequisite: 152 or permission. Honors-level work, usually consisting of laboratory investigations. A minimum of 4 credits may apply toward the honors degree requirements. 12 credits

595 BASIC DNA TECHNOLOGY
Basic DNA techniques including extraction of DNA, storage of DNA and cloning. Laboratory. 3 credits

660 ENVIRONMENTAL PHYSIOLOGY
Prerequisite: 316. Study of physiological reactions of healthy mammals to natural changes or extremes of physical environment. 3 credits

670 MEDICAL PHYSIOLOGY, PATHOPHYSIOLOGY AND PHARMACOLOGY
Prerequisite: Admission to M.S.N. program. 310/510, or consent of instructor. Selected principles of human physiological processes, and laboratory investigations in which students are exposed to problems, interrelated, and related to the care of patients in the clinical setting. 3 credits

681 CYTOLOGY
Prerequisite: 311. Structure and functional organization of cells at ultrastructural level. Three lectures, five hours a week. 3 credits

684 EUCARYOTIC TECHNIQUES-DNA
A graduate level laboratory course which familiarizes the student with several methods used to isolate and characterize eucaryotic genes at the DNA level. 3 credits

684 EUCARYOTIC TECHNIQUES-MRNA
A graduate level laboratory course which familiarizes the student with several methods used to study eucaryotic genes at the RNA level. 3 credits

686 ANIMAL CELL CULTURE
A graduate level laboratory course which familiarizes the student with several methods used to study eucaryotic genes at the RNA level. 3 credits

687 RESEARCH IN THE BIOLOGY OF AGING
3 credits

688 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY
Prerequisite: 311 or equivalent. Modern cytological methods using transmission electron microscopy. Routine technique used to determine proficously in tissue preparations. Use of ultramicrotomes, light and electron microscopes and darkroom techniques. 3 credits

690 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY
Prerequisite: 311, 311 or equivalent. An introduction to modern techniques for the transmission electron microscope and the scanning electron microscope. Isolated and selected aspects of instrumentation and field. 3 credits

695 GENERAL TOPICS IN BIOLOGY
3 credits

697 BIOLOGY COLLOQUIUM
May be repeated. A minimum of six credits required for thesis option. 1-3 credits

*Field trips involved. There is no transportation cost.
BIOLOGY/NEUROCOM

3110:

620 MICROSCOPIC ANATOMY 2 credits
Prerequisite: Graduate standing. Permeation and cell biology. Study of normal and disturbed functions, structure-function relationships in human microscopic anatomy. Includes special laboratory. Learning technologies using human tissue.

621 HUMAN CROSS ANATOMY II 2 credits
Prerequisite: Graduate standing and permission. An intensive survey of human microanatomy.

623 ANATOMIC FUNCTION II 3 credits
Prerequisite: Graduate standing. An intensive survey of human macroanatomy.

641 FUNCTIONAL NEUROANATOMY 6 credits
Prerequisite: Permission or graduate standing. Study of structure and function of mammalian nervous system with emphasis on human brain and behavior. Laboratory.

643 NEUROPHYSIOLOGY 3 credits
Prerequisite: Neuroanatomy. The relation of aspects of the neurosciences to the fundamental properties of nervous tissue, establishing a firm base in experimental neurobiology. Laboratory.

695 SPECIAL TOPICS: BIOLOGY/NEUROCOM 14 credits
Prerequisite: Graduate standing. Directed study of advanced topics in medical education covering areas not otherwise available. May be repeated with change in topic.

CHEMISTRY

3150:

501 BIOCHEMISTRY LECTURE I 3 credits

502 BIOCHEMISTRY LECTURE II 3 credits
Prerequisite: 260. Overview of metabolism, thermodynamics, carbohydrate, fatty acid, amino acid, and nucleic acid metabolism. Hormonal control of metabolism. Pharmacological applications.

572 ADVANCED INORGANIC CHEMISTRY 3 credits

590 WORKSHOP IN CHEMISTRY 1-3 credits
May be repeated. Group studies of special topics in chemistry. May not be used to meet undergraduate major requirements in chemistry.

602 CHEMISTRY OF POLYMERS I & II 2 credits each
Sequential. Prerequisite: 264 and 266 or permission of instructor. History, classification and nomenclature; natural polymers. Types and methods of polymerization. Ring vs. chain stability. Natural and synthetic polymers, nucleic acids.

603 BIOCHEMISTRY LECTURE III 3 credits
Prerequisite: 501 and/or 514. DNA and protein metabolism, translation and transcription. Gene function and expression.

604 CHEMISTRY OF POLYMERS LABORATORY I & II 2 credits each
Sequential. Prerequisite: 501 or permission of instructor. Techniques of polymer analysis, including identification of polymers by fractionation methods in 604, 607, 619.

610 BASIC QUANTUM CHEMISTRY 3 credits
Prerequisite: 254 or permission of instructor. Quantum mechanics with applications to molecular systems. Includes angular momentum, molecular Hamiltonians, valence bond, and configuration interaction methods and molecular orbital theories.

611 SPECTROSCOPY 2 credits
Prerequisite: 260 or permission of instructor. Introduction to light and matter, infrared and ultraviolet spectroscopy. Structural and dynamic applications. Radioactivity. Electronic, vibrational, and nuclear magnetic resonance spectroscopy.

613 TRANSITION-METAL ORGANOMETALLICS 3 credits
Prerequisite: 472 or equivalent. The organometallic chemistry of the transition metal elements. Topics covered include synthesis, characterization methods, structure, bonding, reactivity, and applications.

620 MAIN GROUP ORGANOMETALLICS 3 credits
Prerequisite: 472 or equivalent. The organometallic chemistry of main group elements. Topics covered include synthesis, characterization methods, structure, bonding, reactivity, and applications.

621 ADVANCED PREPARATIONS 2 credits
Prerequisite: Permission. Methods for preparing and purifying organic and inorganic compounds. Laboratory.

622 CHEMISTRY SEMINAR 1 credit
Directed study of current research topics in chemistry by invited speakers.

629 PHYSICAL INORGANIC CHEMISTRY 2 credits
Prerequisites: 314, 472, or permission. Detailed treatment of chemistry of transition elements. Group theoretical applications. Ligand field theory, kinetics and magnetism, electronic spectra, molecular orbital theory.

630 THEORETICAL INORGANIC CHEMISTRY 2 credits
Prerequisites: 314, 472, or permission. Detailed treatment of chemistry of transition elements. Group theoretical applications. Ligand field theory, kinetics and magnetism, electronic spectra, molecular orbital theory.

635 THERMODYNAMICS AND STATISTICAL THERMODYNAMICS 2 credits
Prerequisites: 314, and 315 or permission of instructor. Advanced treatment of laws of thermodynamics and their applications to selected chemical systems. Fundamentals of statistical thermodynamics and applications to systems in chemical equilibrium.

636 CHEMICAL KINETICS 2 credits
Prerequisite: 475. Study of rates of reaction. Theoretical treatments of reaction rates.

639 DESCRIPTIVE INORGANIC CHEMISTRY 3 credits
Prerequisite: Undergraduate inorganic chemistry. The properties, structure, bonding, and reactivity of inorganic compounds. Emphasis is placed on applications and on examples from the inorganic literature.

640 CHEMICAL SEPARATIONS 2 credits
Prerequisite: 260 or equivalent. General theory, instrumentation and application of methods of separation. Emphasis on modern chromatographic techniques and recent advances.

641 SPECTRAL METHODS 2 credits
Prerequisites: 263 and 472 or equivalent. Theory and application of instrumental measurements. Interpretation of data.

642 ELECTROCHEMISTRY 2 credits
Prerequisite: 260 and 472 or equivalent. Theory and application of electrochemical methods of analysis.

645 X-RAY CRYSTALLOGRAPHY 2 credits
Prerequisite: Permission. An advanced treatment of the theoretical and practical aspects of single crystal X-ray crystallography. Theoretical treatments of X-ray crystallography are discussed. Topics covered include diffraction, space groups, structure solution and refinement.

646 CHEMISTRY OF ELASTOMERS 2 credits
Prerequisites: 264, 266 or permission. Study of molecular structure and chemical reactions and properties of natural and synthetic rubbers; polymerization processes in formation of synthetic elastomers.

720 SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS 3 credits
Prerequisites: 263, 264 or permission of instructor. Determination of the structure of organic compounds by spectroscopic analysis. ORD/CD, UV/VIS spectrophotometry, IR spectroscopy, mass spectrometry, NMR spectroscopy, 2D-NMR.

745 PHYSICAL CHEMISTRY OF POLYMERS I & II 2 credits each
Sequential. Prerequisite: 314 or permission of instructor. Basic statistical ideas, molecular weights, distribution, size and shape, kinetics, thermodynamics of polymer solutions.

755 MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY I 3 credits
Prerequisites: 264, 266 or permission of instructor. Introduction to the structural and mechanistic aspects of organic reactions. HMO calculations, acids and bases, equilibrium, kinetics, thermodynamics, reaction mechanisms and synthetic utility of organic reactions. Ligand field theory, orbital interactions, coordination and reactivity.

756 MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY II 2 credits
Prerequisite: 663 or permission of instructor. Synthetic organic chemistry from a mechanistic perspective. Nucleophilic and electrophilic substitution and addition reactions, organic chemistry of functional groups, polar reactions, condensation reactions.

766 EXPERIMENTAL PHYSICAL CHEMISTRY 1 & 2 credits each
Prerequisites: 501, 502 or permission of instructor. Laboratory for inorganic and physical chemistry. May not be used to meet requirements for any major.

769 MASTER'S THESIS 12 credits
For properly qualified candidates for master's degree. Supervised original research in analytical, inorganic, organic, physical or biochemistry.

781 CHEMICAL LITERATURE 2 credits
Survey of advances in the literature. Emphasis is placed on chemical aspects, but other databases are included. Lecture and in-depth reading.

782 SPECIAL TOPICS: ANALYTICAL CHEMISTRY 2 credits
May be repeated. Prerequisite: Permission. Topics in advanced analytical chemistry. Electroanalytical, activation analysis, atomic absorption, electron spectroscopy, mass spectrometry, X-ray diffraction, nuclear magnetic resonance, on exchange, thermodynamic methods, separation, sampling, recent advances.

791 SPECIAL TOPICS: INORGANIC CHEMISTRY 12 credits
May be repeated. Prerequisite: Permission. Consideration of topics in modern inorganic chemistry such as coordination compounds, chemistry of the solid state, representative elements, nonaqueous solvents, organometallic compounds, homogeneous catalysis.

792 SPECIAL TOPICS: ORGANIC CHEMISTRY 12 credits
May be repeated. Prerequisite: Permission. Topics in advanced organic chemistry such as natural products, heterocyclic chemistry.

793 SPECIAL TOPICS: PHYSICAL CHEMISTRY 12 credits
May be repeated. Prerequisite: Permission. Subject from modern physical chemistry.

794 SPECIAL TOPICS: POLYMER CHEMISTRY 12 credits
May be repeated. Prerequisite: Permission. Topics in modern polymer chemistry. Study of topics of current interest. Chemistry of macromolecules encompassing organic, inorganic or physical chemistry aspects and including polymerization where applicable. Lectures and laboratories.

795 SPECIAL TOPICS: BIOCHEMISTRY 12 credits
May be repeated. Prerequisite: Permission. Recent developments in areas of biochemistry.

820 ADVANCED BIOCHEMICAL TECHNIQUES 3 credits
Prerequisite: 455 or 456. Advanced lecture course on physical techniques in biochemistry. Includes optical and hydrodynamic methods, radiocoupled techniques, scattering and magnetic resonance spectroscopy.

822 ENZYMATIC REACTIONS 2 credits

824 BIOMOLECULAR CHEMISTRY 2 credits
Prerequisites: 452 and 456 or permission. Survey of the structure and properties of metal ion complexes with amino acids, nucleotides, macromolecules, metal ion metabolism and metals in medicine.

825 ADVANCED METABOLISM 3 credits
Prerequisites: 450/502 or 456 and 459/502. Study of advanced pathways in carbohydrate, lipid and protein metabolism with emphasis placed on metabolic dysfunction.

840 PHYSICAL ORGANIC CHEMISTRY 2 credits
Prerequisites: 663, 664 or permission of instructor. An advanced treatment of the theory and mechanisms of organic chemistry: HMO theory, molecular mechanics, molecular strain, kinetics, transition state theory, acidity functions and ionization relationships.

850 ADVANCED SYNTHETIC ORGANIC CHEMISTRY 2 credits
Prerequisites: 663, 664 or permission of instructor. An advanced treatment of organic functions groups, group manipulations and the core of the total synthesis of natural products.

899 DOCTORAL DISSERTATION 1-6 credits
Open to qualified students accepted as candidates for Doctor of Philosophy in Chemistry. Supervised original research undertaken in organic, inorganic, physical, analytical or biochemistry.
GREEK

3210:

597 GREEK READING AND RESEARCH 3 credits each

LATIN

3220:

598 LATIN READING AND RESEARCH 3 credits each

ECONOMICS

3250:

506 STATE AND LOCAL PUBLIC FINANCE 3 credits

527 ECONOMIC FORECASTING 3 credits

530 LABOR MARKET POLICY 3 credits

550 COMPATIVE ECONOMIC SYSTEMS 3 credits

560 ECONOMIC DEVELOPMENT AND PLANNING FOR UNDERDEVELOPED COUNTRIES 3 credits

575 DEVELOPMENT OF ECONOMIC THOUGHT 3 credits

581 MONEY AND BANKING POLICY 3 credits

589 WORKSHOP IN ECONOMICS 1 credit

600 FOUNDATIONS OF ECONOMIC ANALYSIS 2 credits

602 MACROECONOMIC ANALYSIS I 3 credits

603 MACROECONOMIC ANALYSIS II 3 credits

604 ECONOMICS OF THE PUBLIC SECTOR 3 credits

610 FRAMEWORK OF ECONOMIC ANALYSIS 3 credits

611 MICROECONOMIC THEORY I 3 credits

612 MICROECONOMIC THEORY II 3 credits

615 INDUSTRIAL ORGANIZATION 3 credits

616 ANTITHETIC ECONOMICS 3 credits

621 APPLICATION OF LINEAR MODELS IN ECONOMIC ANALYSIS 3 credits

626 STATISTICS FOR ECONOMISTS 3 credits

627 ECONOMETRICS 3 credits

629 THEORIES OF WAGES AND EMPLOYMENT 3 credits

634 COLLECTIVE BARGAINING 3 credits

635 CULTURES OF AMERICA AND NEAR EASTERN ARCHAEOLOGY 3 credits

637 ELECTIVES 3 credits

651 CULTURAL HISTORY OF INDIA 3 credits

652 SELECTIONS IN ANCIENT CULTURE 3 credits

653 LATIN READING AND RESEARCH 3 credits each
ENGLISH 3300:

501 ANGLO-SAXON 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of genres, topics, styles and varieties of the Middle English language from its beginnings to the end of the 17th century. Readings in Middle English.

512 SPENSER 2 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 heroic and minor works, all studied in the context of Elizabethan aesthetic theory, learning and politics.

516 METAPHYSICAL POETS 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. An intensive study of the major works of Spenser and Pope. Concentration on the historical and critical context of each author within the context of the shifting intellectual and cultural climate at the end of the 17th and beginning of the 18th Century.

521 SWIFT AND POPE 3 credits
This course provides an intensive study of Jonathan Swift and Alexander Pope. A focus on works published before 1732. Emphasis is placed on Herbert, Crabbe, Vaughan, Tabitha, Moll Cowley, Cleveland, Southwell and King.

525 STUDIES IN ROMANTICISM 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major authors of the Romantic period in 18th and 19th centuries, focusing on the development of their works and their influence on later literature.

530 VICTORIAN PROSE AND POETRY 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

531 VICTORIAN FICTION 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

533 CHARLES DICKENS 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

537 20TH CENTURY BRITISH POETRY 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

538 BRITISH FICTION 1900-1925 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

539 BRITISH FICTION SINCE 1925 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

546 MODERN BRITISH AND IRELAND' 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

545 MEYER 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. A study of the development of Shakespeare's works, focusing on the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

546 AUTOBIOGRAPHY 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. An intensive study of the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

547 AMERICAN ROMANTIC FICTION 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

548 AMERICAN REALISM AND NATURALISM 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

551 AMERICAN POETRY TO 1900 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

552 AMERICAN POETRY SINCE 1900 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

553 AMERICAN WOMEN POETS 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

559 THE AMERICAN SHORT STORY 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

557 HISTORY OF ENGLISH LANGUAGE 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

558 MODERN EUROPEAN FICTION 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

560 EUROPEAN FICTION 1900-1945 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

569 POETICS 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

573 THEORY OF LITERACY 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

575 THEORY OF Rhetoric 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

576 HISTORY OF SCIENCE AND PHILOSOPHY 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

588 NATIVE AMERICAN LITERATURE 3 credits
Prerequisite: Completion of 1100:111 and 1100:112 or their equivalents, or permission of the instructor. Examines the major works of English literature in the 19th century, focusing on the development of the short story as a particularly American genre.

599 MASTERS THESIS 3 credits
(May be repeated for a total of six credits)
Courses of Instruction

GEOLOGY

GEOLOGY

593 WORKSHOP GEOCHEMISTRY IN STABLE FUNDAMENTALS

570 GEOLOGY

346

341 Advanced Geology

325

111 INTRODUCTION TO GEOLOGY

101

359 MicroPaleontology

356 Paleomagnetism

353 Petroleum Geology

350 Advanced Petrology

349 Borehole Geophysics

348 Exploration Geophysics

345 Geologic Record of Past Global Change

344 Geochemical Methods of Prospecting

343 Geology Teaching Practicum

342 Selected Topics in Geology

341 Advanced Field Studies

339 Geology Colloquium

338 Graduate Research Problems

336 Master's Thesis

335 Dissertation

334 Thesis

333 Seminar in Geology

332 Selected Topics in Hydrology

331 Grand Canyon Hydrology

330 Hydrogeology

329 Geomorphology

328 Geomorphometry

327 Advanced Isotope Geochemistry

326 Stable Isotope Geochemistry

325 Geochemistry

324 Exploration Geophysics

323 Advanced Paleontology

322 Paleontology Fundamentals

321 Paleontology

320 Fundamentals of Paleontology

319 Advanced Paleontology

318 Geochronology

317 Geologic Time and Events

316 Isotope Geochemistry

315 Geology

314 Remote Sensing in Geology

313 Applied Quantitative Geomorphology

312 Carbonate Sedimentology

311 Siliciclastic Sedimentology

310 Igneous Petrology

309 Rocks and Minerals

308 Ionian Petrology

307 Metamorphic Petrology

306 Clay Mineralogy

305 Geochronology

304 Isotope Geochemistry

303 Exploration Geophysics

302 Petroleum Geology

301 Petroleum Geology

300 Exploration Geophysics

299 Introduction to Geology

298 Field Camp I

297 Field Camp II

296 Field Camp III

295 Field Camp IV

294 Field Camp V

293 Field Camp VI

292 Field Camp VII

291 Field Camp VIII

290 Field Camp IX

289 Field Camp X

288 Field Camp XI

287 Field Camp XII

286 Field Camp XIII

285 Field Camp XIV

284 Field Camp XV

283 Field Camp XVI

282 Field Camp XVII

281 Field Camp XVIII

280 Field Camp XIX

279 Field Camp XX

278 Field Camp XXI

277 Field Camp XXII

276 Field Camp XXIII

275 Field Camp XXIV

274 Field Camp XXV

273 Field Camp XXVI

272 Field Camp XXVII

271 Field Camp XXVIII

270 Field Camp XXIX

269 Field Camp XXX

268 Field Camp XXXI

267 Field Camp XXXII

266 Field Camp XXXIII

265 Field Camp XXXIV

264 Field Camp XXXV

263 Field Camp XXXVI

262 Field Camp XXXVII

261 Field Camp XXXVIII

260 Field Camp XXXIX

259 Field Camp XL

258 Field Camp XLI

257 Field Camp XLII

256 Field Camp XLIII

255 Field Camp XLIV

254 Field Camp XLV

253 Field Camp XLVI

252 Field Camp XLVII

251 Field Camp XLVIII

250 Field Camp XLIX

249 Field Camp L

248 Field Camp LI

247 Field Camp LII

246 Field Camp LIII

245 Field Camp LIV

244 Field Camp LV

243 Field Camp LX

242 Field Camp LXI

241 Field Camp LXII

240 Field Camp LXIII

239 Field Camp LXIV

238 Field Camp LXV

237 Field Camp LXVI

236 Field Camp LXVII

235 Field Camp LXVIII

234 Field Camp LXIX

233 Field Camp LXX

232 Field Camp LXXI

231 Field Camp LXXII

230 Field Camp LXXIII

229 Field Camp LXXIV

228 Field Camp LXXV

227 Field Camp LXXVI

226 Field Camp LXXVII

225 Field Camp LXXVIII

224 Field Camp LXXIX

223 Field Camp LXXX

222 Field Camp LXXXI

221 Field Camp LXXXII

220 Field Camp LXXXIII

219 Field Camp LXXXIV

218 Field Camp LXXXV

217 Field Camp LXXXVI

216 Field Camp LXXXVII

215 Field Camp LXXXVIII

214 Field Camp LXXXIX

213 Field Camp XC

212 Field Camp XCI

211 Field Camp XCII

210 Field Camp XCIII

500 WOMEN IN REVOLUTIONARY CHINA 2 credits
Pre-requisites: 3400.300, 39, or 110-330, or permission of instructor. A study of the changes in women's lives in China during the late imperial (1844-1911) and republic (1899-1949) periods.

561 IMPERIALISM IN EAST ASIA 3 credits
An examination of the East Asian relationship in the modern period, highlighting China's response to British, Russian and Japanese imperialism in the 19th and 20th centuries.

584 STUDIES IN ROMAN HISTORY 3 credits
Prerequisite: completion of basic course in the period. An investigation of selected topics such as imperialism in middle and late Republic, the age of Augustus, or the fall of western Empire.

566 MODERN INDIA 3 credits
History of 1st Indian subcontinent from 1500 with emphasis on Indian society, culture, British imperialism, and the emergence of Indian nationalism.

555 THE RENAISSANCE 3 credits
The age of transition from the Middle Ages to modern times (1500-1600). Special emphasis on intellectual trends, the development of Humanism, and the fine arts.

558 THE REFORMATION 3 credits
Examines in 16th Century, its origin, religious, political and diplomatic development. Special emphasis on Protestant, Anglican and Catholic reformation.

582 EUROPE IN THE FRENCH REVOLUTIONARY ERA 1785-1815 3 credits
Development of Revolution, Napoleon's regime and regime.

569 NAZI GERMANY 3 credits
An examination of the changes that Britain experienced during the age of Winston Churchill, 1894-1945. Emphasis is on cultural, social and political developments.

575 MEXICO 3 credits
History of Mexico from Indian civilizations to present with emphasis on relations with the United States, social and political events, and the 20th Century Mexican revolution.

578 CENTRAL AMERICA AND THE CARIBBEAN 3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on popular upsurge movements, political conflict, socioeconomic development and relations with the United States.

576 HISTORY OF CANADA 3 credits
Survey of Canadian history from the age of the explorer to the present. Special emphasis will be placed on the history of French-Canadians, on economic development and on Canadian-American relations.

579 WAR AND WESTERN CIVILIZATION 3 credits
War and society in Europe, Asia and beyond from ancient world to present with special emphasis on period 1814-1941.

577 HISTORICAL AGENCY ADMINISTRATION 3 credits
Organizations and administrative process, history of agencies (e.g., societies, museums, libraries, etc.). Some field experience in a historical agency.

585 FUNCTIONS OF HISTORICAL AGENTS 3 credits
Prerequisite: 555 or permission. The functions and problems of historical agents. Students develop a project that involves participating in an agency function.

586 WESTERN SCIENCE TO 1800 3 credits
Science in Greek, Roman, Islamic, European societies, with special emphasis on the scientific development of the prehistoric period.

587 WESTERN SCIENCE SINCE 1800 3 credits
Continuing development of physical, medical, biological sciences in European and American societies. Atomic physics, evolution, genetics, modern medicine.

588 WESTERN TECHNOLOGY 3 credits
Technology in Mesopotamia, Egypt, Greece, Rome, Islam, medieval Europe, and second and recent technological revolutions in Europe, America.

589 SPECIAL STUDIES IN HISTORY 3 credits
Includes special topics, interdisciplinary studies, as well as those subjects that are not listed in the Graduate Bulletin. See departmental office for information on particular course.

590 RESEARCH IN HISTORY 1-12 credits
May be repeated Group studies of special subjects pertaining to History. May be used for elective credit only. May not be counted toward undergraduate or graduate major requirements or history.

622 READING SEMINAR IN ANCIENT HISTORY 1 credit
Study of historical literature, sources of materials, major interpretations of ancient history, especially Greek and Roman periods.

623 READING SEMINAR IN ANCIENT HISTORY 1 credit
Prerequisites: 622. Reading and various selected topics of ancient history, particularly Greek and Roman periods.

625 READING SEMINAR IN MEDIEVAL HISTORY 1 credit
Study of historical literature, sources of materials and major interpretations of medieval European history.

626 READING SEMINAR IN MEDIEVAL HISTORY 1 credit
Prerequisites: 625. Reading and various selected topics of European medieval history, including the impact of Black Death on Medieval society.

631 READING SEMINAR IN MODERN EUROPEAN HISTORY TO 1815 1 credit
Prerequisites: 630. Reading and various selected topics of early modern European history, especially France and the Napoleonic wars.

632 READING SEMINAR IN MODERN EUROPEAN HISTORY TO 1815 1 credit
Prerequisites: 631. Reading and various selected topics of modern European history, especially France and the Napoleonic wars.

636 READING SEMINAR IN MODERN EUROPEAN HISTORY TO 1815 1 credit
Study of historical literature, sources of materials and major interpretations of modern European history, especially France and the Napoleonic wars.

634 READING SEMINAR IN MODERN EUROPEAN HISTORY SINCE 1815 1 credit
Prerequisites: 633. Reading and various selected topics of modern European history, especially France and the Napoleonic wars.

640 READING SEMINAR IN HISTORY OF SCIENCE 1 credit
Study of historical literature, sources of materials and major interpretations of history of science.

641 READING SEMINAR IN HISTORY OF SCIENCE 1 credit
Prerequisites: 640. Reading and writing in selected topics in history of science.

651 READING SEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE 1 credit
Study of historical literature, sources of materials and major interpretations of English and British imperial history.

652 READING SEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE 1 credit
Prerequisites: 651. Reading and writing in selected topics of English and British imperial history.

666 READING SEMINAR IN AMERICAN HISTORY TO 1877 1 credit
Study of historical literature, sources of materials and major interpretations of American colonial and United States history to Civil War.

667 READING SEMINAR IN AMERICAN HISTORY TO 1877 1 credit
Prerequisites: 666. Reading and writing in selected topics of American history from colonial period to Civil War.

669 READING SEMINAR IN AMERICAN HISTORY SINCE 1877 1 credit
Study of historical literature, sources of materials and major interpretations of United States history since Civil War.

677 READING SEMINAR IN AMERICAN HISTORY SINCE 1877 1 credit
Prerequisites: 669. Reading and writing in selected topics of United States history since Civil War.

686 READING SEMINAR IN AMERICAN HISTORY SINCE 1877 1 credit
Prerequisites: 677. Reading and writing in selected topics of American history since Civil War.

687 READING SEMINAR IN AMERICAN HISTORY SINCE 1877 1 credit
Prerequisites: 686. Reading and writing in selected topics of American history since Civil War.

690 READING SEMINAR IN CHINA 1 credit
Study of Chinese texts, environment, literature, and major interpretations of the historical China.
NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS

INDIVIDUAL READING FOR

NUMERICAL ANALYSIS I

MATH 3450:

501 HISTORY OF MATHEMATICS

510 ADVANCED LINEAR ALGEBRA

511 ABSTRACT ALGEBRA I

512 ABSTRACT ALGEBRA II

513 THEORY OF NUMBERS

514 VECTOR ANALYSIS

515 COMBINATORICS AND GRAPH THEORY

516 ADVANCED CALCULUS I AND II

520 COMPLEX VARIABLES

521 INTRODUCTION TO NUMERICAL ANALYSIS

522 NUMERICAL SOLUTIONS FOR ORDINARY DIFFERENTIAL EQUATIONS

523 NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS

524 SPECIAL FUNCTIONS AND OPERATIONAL CALCULUS

525 PARTIAL DIFFERENTIAL EQUATIONS

530 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS

531 ADVANCED ENGINEERING MATHEMATICS I

532 ADVANCED ENGINEERING MATHEMATICS II

533 MATHEMATICAL MODELS

534 CONCEPTS IN GEOMETRY

535 PROJECTIVE GEOMETRY

536 INTRODUCTION TO TOPOLOGY

537 TOPICS IN MATHEMATICS

538 WORKSHOP IN MATHEMATICS

539 TOPICS IN ALGEBRA

540 LINEAR ALGEBRA

541 MEASURE THEORY

542 ANALYTIC FUNCTION THEORY

543 ANALYSED NUMERICAL ANALYSIS I AND II

544 MATRIX COMPUTATIONS I AND II

545 ADVANCED COMBINATORICS AND GRAPH THEORY

546 DIFFERENTIAL GEOMETRY

547 TOPOLOGY

548 ADVANCED TOPICS IN MATHEMATICS

549 SEMINAR IN MATHEMATICS

550 ADVANCED MATH 3450 PRACTICAL PROBLEMS IN MATHEMATICS AND ANALYTICAL GEOM.

551 DOCTORAL DISSERTATION
### COMPUTER SCIENCE 3460:

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<td>686</td>
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STATISTICS

3470:

515 MATHEMATICAL CONCEPTS FOR STATISTICS
Prerequisite: 3450:222, 3450:312, or equivalent. Topics from matrix algebra and analysis, quadratic forms, eigenvalues and eigenvectors, generalized inverses, vector functions, continuity, differentiation, extreme problems, multivariate integration, infinite series, and applications. May not be used to meet graduate degree requirements for mathematical sciences majors. 4 credits.

550 PROBABILITY
Prerequisite: 3450:221. Introduction to probability, random variables, and probability distributions, expectation, variance, sums of random variables, Markov processes. 3 credits.

561 THEORETICAL STATISTICS I
Prerequisite: 3450:221. Elementary combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, and introduction to experimental design. 3 credits.

565 THEORETICAL STATISTICS II
Prerequisite: 3450:222 or 246 or equivalent. Applications of statistical theory to natural and physical sciences and engineering, including probability distributions, intraclass estimation, hypothesis testing, estimation theory, and nonparametric and simple linear regression and correlation. 3 credits.

567 DESIGN OF SAMPLE SURVEYS
Prerequisite: 461/561 or equivalent. Design and analysis of frequently used survey techniques. 3 credits.

569 RELIABILITY MODELS
Prerequisite: 650/691. Selected topics in reliability modeling, including parametric and nonparametric models, censoring problems, failure data, and accelerated life models. 3 credits.

571 ACTUARIAL SCIENCE I
Prerequisite: 3450:561 or equivalent. Study of various actuarial, financial, and mathematical calculations used to determine insurance premiums related to contingent risks based on individual risk models. 3 credits.

572 ACTUARIAL SCIENCE II
Prerequisite: 471571. 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. 3 credits.

575 FOUNDATIONS OF STATISTICAL QUALITY CONTROL
Prerequisite: 650/691. Course provides a solid foundation in the theory and applications of statistical techniques widely used in industry. 3 credits.

586 STATISTICAL COMPUTER APPLICATIONS
Prerequisite: 3450:223 and one semester course in statistics or permission. Translation of statistical computations into computer languages, iterative procedures, generating tables, Monte Carlo techniques, use of statistical packages. 3 credits.

599 TOPICS IN STATISTICS
Prerequisite: 650/691. Selected topics in statistical theory, probability, and data analysis. 1-3 credits. (May be repeated for a total of six credits)

601 THEORETICAL STATISTICS III
Prerequisite: 650/691. A general study of mathematical statistics. 3 credits.

605 LINEAR MODELS
Prerequisite: 3450:312 and 650/691 or equivalent. General linear models in matrix notation, generalization of hypothesis testing, estimation models, experimental design models, analysis of variance and covariance, variance components. 3 credits.

606 ADVANCED STATISTICAL METHODS
Prerequisite: 560 or 650/691 or equivalent. Theory and application of the techniques of estimation and multifactor analysis of variance. 4 credits.

608 EXPERIMENTAL DESIGN
Prerequisite: 650 or equivalent. Selected topics in experimental design including random and fixed effects, nested designs, split plot designs, confounding, fractional factors, Latin squares, and analysis of covariance. 3 credits.

614 STATISTICS FOR THE HEALTH SCIENCES
Prerequisite: 3450:561 or 650/691 or equivalent. Descriptive statistics, probability and probability distributions, the Central Limit Theorem, interval estimation, hypothesis testing, and confidence intervals. Nonparametric statistics, regression and correlation. 4 credits.

651 REGRESSION
Prerequisite: 650 or equivalent. Correlation, simple and multiple linear regression, least squares, matrix notation, model building and checking, hypothesis testing, outliers, influence, multicollinearity, transformations, categorical regression, logistic regression. 3 credits.

660 NONPARAMETRIC STATISTICS-METHODS
Prerequisites: 560 or 650/691 or equivalent. Theory and practice in using techniques requiring few restrictive assumptions. Nonparametric analogues to t- and F-tests, ANOVA, regression and correlation. Complete applications. 3 credits.

666 FACTOR ANALYSIS
Prerequisite: 560 or 650/691. Theory and techniques for identifying variables through use of principal component and factor analysis. Identification of groups using cluster analysis. 3 credits.

668 MULTIVARIATE STATISTICAL METHODS
Prerequisite: 560 or 650/691 or equivalent. Multivariate techniques including distance concepts, canonical correlation, factor analysis, and the general linear model. Theory and methods for the analysis of large data sets. 4 credits.

675 RESPONSE SURFACE METHODOLOGY
Prerequisite: 560 or 650/691. First and second order model response designs, efficient experimental plans, methods for the analysis, and optimization of response functions. 3 credits.

689 ADVANCED TOPICS IN STATISTICS
May be repeated for a total of six credits. Prerequisite: 650/691. Selected topics in statistical techniques, advanced modeling and data analysis, analysis of variance, sequential analysis, stochastic processes, reliability theory, Bayesian statistics and regression. 3 credits.

692 SEMINAR IN STATISTICS
May be repeated. Prerequisite: permission of advisor. Seminar-style discussion on topics in statistics or application of statistical methodology in a research paper. No more than 2 credits applicable to major requirements. 1-3 credits.

698 PRACTICUM IN STATISTICS AND MATHEMATICS
Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of statistics. May not be used to meet degree requirement. May be taken only on credit basis. 1-7 credits.

699 INDIVIDUAL READING
May be repeated for a total of four credits. Prerequisite: graduate standing and permission. Directed studies in statistics under guidance of selected faculty member. 1-12 credits.

700 MASTER'S RESEARCH
Prerequisite: 650/691 or equivalent. Research in selected topic in statistics culminating in a research paper. No more than 2 credits applicable to major requirements. 1-12 credits.

704 MASTER'S THESIS
May be repeated. Prerequisite: permission of advisor. Research leading to supervised research project. No more than 4 credits applicable to major requirements. 1-4 credits.

ENGINEERING APPLIED MATHEMATICS

3490:

701,2 INTERDISCIPLINARY RESEARCH SEMINAR
Prerequisite: Permission. For students seeking graduate degrees in Applied Mathematics. An introduction to interdisciplinary research in the mathematical sciences, physical sciences, and engineering. 3 credits.

709 ADVANCED SEMINAR IN APPLIED MATHEMATICS
May be repeated for a total of 12 credits. For students seeking graduate degrees in Applied Mathematics. Advanced projects and studies in various areas of applied mathematics. 1-4 credits.

899 DISSERTATION PREPARATION
Prerequisite: Permission. May be repeated. Completion of qualifying examination and approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation topic. 1-12 credits.

909 DOCTORAL DISSERTATION PREPARATION
Prerequisite: Permission. May be repeated. Completion of candidacy examination and approval of Student Advisory Committee. Original research for a Ph.D. candidate. 1-10 credits.

MODERN LANGUAGES

3500:

590 WORKSHOP
May be repeated. Group studies of special topics in modern languages. 2 credits.
FRENCH

3520:

502 ADVANCED FRENCH GRAMMAR 3 credits
Pre-requisite: 302 or equivalent. Advanced study of non-native French grammar with emphasis on syntax, morphology, grammatical structure and semantic principles.

567 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE 4 credits
Pre-requisite: 365 or 366 or permission. Reading and discussion of selected medieval and Renaissance literary works. Conducted in French.

511 17TH CENTURY FRENCH LITERATURE 4 credits
Pre-requisite: 306 or 366 or equivalent. Reading and discussion of selected works by poets, dramatists and novelists. Conducted in French.

515 18TH CENTURY FRENCH LITERATURE 4 credits
Pre-requisite: 306 or 366 or equivalent. Reading and discussion of selected works by prominent writers of the 18th century. Conducted in French.

529 FRANCOPHONE CARIBBEAN LITERATURE 4 credits
Pre-requisite: 306 or 366 or equivalent. Reading and discussion of selected works pertaining to the realities, rebellions, and naturalistic movements. Conducted in French.

551 SPECIAL TOPICS IN ADVANCED LANGUAGE SKILLS OR CULTURE OR LITERATURE 1-4 credits
Pre-requisite: 202 or equivalent. May be repeated. Development of specialized language skills or reading at significant works of culture not studied in any course.

571 FRENCH LANGUAGE READING PROFICIENCY 4 credits
Pre-requisite: 306 or 366 or equivalent. Reading and discussion of selected works according to an important theme.

579 20TH CENTURY FRENCH LITERATURE 4 credits
Pre-requisite: 306 or 366 or equivalent. Reading and discussion of the most representative works of the 20th century. Conducted in French.

592 FRANCOPHONE CAPELIEAN LITERATURE 3 credits
Pre-requisite: 365 or 366 or equivalent. A study of selected literary works from Haiti, Guadeloupe, and Martinique in light of their geographical, historical, socioeconomic, and cultural determinants.

560 SELECTED THEMES IN FRENCH LITERATURE 4 credits
May be repeated. Conducted in French. Pre-requisite: 306 or 366 or equivalent. Reading and discussion of literary works selected according to an important theme.

581 FRENCH LANGUAGE READING PROFICIENCY 4 credits
Pre-requisite: 306 or 366 or equivalent. Reading and discussion of selected works according to an important theme.

584, 603, 94 ROMANCE AND APPLIED LINGUISTICS 4 credits each
History of the French language from 1480 to present. Second semester deals with application of linguistic research to teaching of French.

583 SELECTED TOPICS IN THE MOVEMENTS IN IDEAS IN FRENCH LITERATURE 4 credits each
Study of topics instrumental in shaping French thought and culture.

512 FRENCH CULTURE EXPRESSED IN LITERATURE 4 credits each
Anthropological approach emphasizing social and civic institutions, education, music and art, values, systems and national characteristics.

441 SEMINAR: FRANCOPHONE LITERATURE: CULTURE AND CIVILIZATION 2 credits
Study of various aspects of culture, civilization and literature of French expression outside of France.

463 SEMINAR: THE IMAGE OF THE WOMAN IN FRENCH LITERATURE 2 credits
Study of the woman as characterized in French literature from Middle Ages to present.

661 FRENCH TEACHING PRACTICUM 2 credits
Pre-requisite: 306 or equivalent. May be repeated. Development of specialized language skills or reading at significant works of culture not studied in any course.

693 INDIVIDUAL READING AND RESEARCH IN FRENCH 1-4 credits each
Pre-requisite: 202 or permission of Department Chair. Independent study and research in specific areas. Considerable reading and writing required.

999 MASTER’S THESIS 4 credits

SPANISH

3580:

506 SPANISH LINGUISTICS: PHONOLOGY 4 credits
Pre-requisite: permission. Descriptive study of Spanish phonetics and morphology, comparison of Spanish and English sounds, historical origins, regional accents and sociolinguistic variation. Conducted in Spanish.

536 SPANISH LINGUISTICS: SYNTAX 4 credits
Pre-requisite: permission. Descriptive study of Spanish syntax: introduction to theories of phrase structure and syntax trees; analysis of the noun phrase, verb phrase, and clause structures. Conducted in Spanish.

529 CULTURAL MANIFESTATION IN MEDIEVAL AND RENAISSANCE SPAIN 4 credits
Pre-requisite: 407 or 408 or permission of instructor. Comparative study of representative artists and writers of the medieval and Renaissance periods. Conducted in Spanish.

511 SPAIN DURING THE BAROQUE PERIOD 4 credits
Pre-requisite: 407 or 408 or permission of instructor. A comparative study of the different cultural manifestations in 18th century Spain. Conducted in Spanish.

531 CEANUTES: DON QUIJOTE 4 credits
Pre-requisite: 407 or 408 or permission of instructor. Reading and analysis of Don Quixote as the first modern novel in the historical context of Renaissance and Baroque aesthetics. Conducted in Spanish.

579 THE AGE OF REASON AND THE ROMANTIC REBELLION IN SPAIN 4 credits
Pre-requisite: 407 or 408 or permission. Study of the Enlightenment and the Romantic Movement as reflected in the works of the major artists and writers of these periods. Conducted in Spanish.

516 REPRESENTING REALITY IN 19TH CENTURY SPAIN 4 credits
Pre-requisite: 407 or 408 or permission. A comprehensive study of the major literary and artistic movements in Spain from Realism to Modernism. Conducted in Spanish.

517 19TH CENTURY SPAIN: THE AGITATOR IN LITERATURE AND ART 4 credits
Pre-requisite: 407 or 408 or permission. A comprehensive study of the major literary and artistic movements in Spain which illustrate the cultural changes of the century. Conducted in Spanish.

519 THE SPANISH CIVIL WAR AND ITS CULTURAL IMPACT 4 credits
Pre-requisite: 407 or 408 or permission. Study of the impact of the Civil War on Spanish culture.

552 SPECIAL TOPICS IN SPECIALIZED LANGUAGE SKILLS OR CULTURE OR LITERATURE 1-4 credits
Pre-requisite: 202 or equivalent. May be repeated. Development of specialized language skills or reading at significant works of culture not studied in any course.

537 SPANISH-AMERICAN LITERATURE BEFORE 1900 4 credits
Pre-requisite: 407 or 408 or permission. Reading of representative Spanish-American literature from the 1500's to 1900's. Conducted in Spanish.

553 RACE AND ETHNICITY INDIGENOUS CULTURES IN SPANISH-CENTRAL AMERICA 4 credits
Pre-requisite: 407 or 408 or permission. Focus on the cultural manifestations of indigenous cultures in literature, especially the role of the indigenous force in the development of contemporary Latin American fiction. Conducted in Spanish.

554 20TH CENTURY SPANISH-AMERICAN NOVEL 4 credits
Pre-requisite: 407 or 408 or permission of instructor. Study of Latin American fiction. Conducted in Spanish.

567 LATINO CULTURES IN THE USA 4 credits
Pre-requisite: 407 or 408 or permission of instructor. Study of Latin American experience in the USA. Conducted in Spanish.

555 CULTURE AND LITERATURE OF THE HISPANIC CARIBBEAN 4 credits
Pre-requisite: 407 or 408 or permission of instructor. Study of selected works of contemporary Caribbean authors from the Caribbean. Conducted in Spanish.

555 WOMEN IN 20TH CENTURY SPANISH LITERATURE 4 credits
Pre-requisite: 407 or 408 or permission. Reading of representative Spanish-American literature from the 20th century. Conducted in Spanish.

560 HISPANIC CULTURE SPAIN 4 credits
Pre-requisite: 402 or permission. Study of the cultures of Spain, including the role of the Spaniards in the development of the modern world. Conducted in Spanish.

561 HISPANIC CULTURE: SOUTH AMERICA 4 credits
Pre-requisite: 402 or permission. Study of the cultures of Latin America, including the role of the Spaniards in the development of the modern world. Conducted in Spanish.

563 HISPANIC CULTURE: MEXICO AND CENTRAL AMERICA 4 credits
Pre-requisite: 402 or permission. Study of the cultures of Mexico and Central America, including the role of the Spaniards in the development of the modern world. Conducted in Spanish.

547 SPANISH LANGUAGE READING PROFICIENCY 4 credits
Designed to develop proficiency in reading comprehension.

697 SEMINAR ON MEDIEVAL SPANISH LITERATURE 4 credits
Pre-requisite: permission. Reading and discussion of literary works of Spanish origin, including those of Duchess of Alba, Jovellanos, and Blas de Lezo. Conducted in Spanish.
PHILOSOPHY

3600:

511 PLATO Prerequisite: 211 or permission of instructor. Detailed study of the origin and development of Plato's Theory of Forms and the related theories of knowledge, ethics, and politics. 3 credits

518 ANALYTIC PHILOSOPHY Prerequisite: 211 or 212 or permission of instructor. Study of early and ordinary language usage in 17th-18th Century philosophical and scientific literature. 3 credits

531 BRITISH EMPIRICISM Prerequisite: 211 or permission of instructor. Study of empiricism, moral philosophy, and the nature of law and legal institutions. 3 credits

521 PHILOSOPHY OF LAW Prerequisite: 211 or permission of instructor. Study of the philosophy of law and the nature of law and legal institutions. Taught in alternate years. 3 credits

522 CONTINENTAL PATHEOLOGY Prerequisite: 211 or permission of instructor. Study of the philosophy of mind in European thought. 3 credits

523 EXISTENTIALISM Prerequisite: 211 or permission of instructor. Study of the philosophy of mind in European thought. 3 credits

524 PHENOMENOLOGY Prerequisite: 211 or permission of instructor. Study of the philosophy of mind in European thought. Taught in alternate years. 3 credits

525 PHILOSOPHY OF SCIENCE Prerequisite: 211 or permission of instructor. Study of the philosophy of science and the nature of scientific inquiry. 3 credits

542 ART Prerequisite: 211 or permission of instructor. Study of the philosophy of art and the nature of aesthetic value. Taught in alternate years. 3 credits

544 PROBLEMS IN PHILOSOPHY Prerequisite: 211 or permission of instructor. Study of the philosophy of science and the nature of scientific inquiry. Taught in alternate years. 3 credits

552 THEORY OF KNOWLEDGE Prerequisite: 211 or permission of instructor. Study of the philosophy of knowledge and the nature of scientific inquiry. Taught in alternate years. 3 credits

556 PHILOSOPHY OF SCIENCE Prerequisite: 211 or permission of instructor. Study of the philosophy of science and the nature of scientific inquiry. Taught in alternate years. 3 credits

571 METAPHYSICS Prerequisite: 211, 212, or permission of instructor. Advanced study of metaphysics, including the nature of reality. 3 credits

580 SEMINAR May be repeatable. Prerequisite: permission of instructor. 3 credits

611 PHILOSOPHY OF LANGUAGE Prerequisite: 211 or permission of instructor. Study of the philosophy of language and the nature of linguistic values. 3 credits

619 INDIVIDUAL STUDY May be repeatable for a total of 6 credits. Prerequisite: completion of required course of study (as approved by the department head). Independent study and research in all areas of philosophy. 1-12 credits

619 SEMINAR: HISTORY OF PHILOSOPHY May be repeated for a total of 12 credits. Prerequisite: permission of instructor. Study of the history of philosophy. 3 credits

621 ETHICAL THEORY Examination of ethical problems and the conduct and decision making in the context of ethical theories as well as contemporary moral issues in business. 3 credits

676 LOGICAL THEORY Advanced topics in logic such as modal logic and axiomatic theories. Recommended for law students. 3 credits
POLITICAL SCIENCE

3700:

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<td>ISSUES AND APPROACHES IN COMPARATIVE POLITICS</td>
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<td>525</td>
<td>LATIN AMERICAN POLITICS</td>
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542 METHODS OF POLICY ANALYSIS 3 credits

Prequisites: 201. Examines variety of methods available for analyzing public policies. Techniques of cost-benefit analysis, evaluation research, quasi-experiments are covered as well as consideration of ethical questions in policy analysis. The political problems and policy analysis.

551 THE SUPREME COURT AND CONSTITUTIONAL LAW 3 credits

Prequisites: 100 or permission of the instructor. Examination of the role of the Supreme Court in the United States, the role of the federal courts, and the role of the judiciary.

552 THE SUPREME COURT AND CIVIL LIBERTIES 3 credits

Prequisites: 100 or permission of the instructor. Examination of the role of the Supreme Court in the United States, the role of the federal courts, and the role of the judiciary.

570 CAMPAIGN MANAGEMENT I 3 credits

Prequisites: 6 credits of political science or permission. Research, planning, implementation, and management of political campaigns.

571 CAMPAIGN MANAGEMENT II 3 credits

Prequisites: 470/570. The second course in campaign management. Focus is on time, coalition building, candidate positioning, event planning, internal organization, and the elements of campaign strategy.

572 CAMPAIGN FINANCE 3 credits

Prequisites: six credits of political science or permission. Reading and research in financial decision making in political campaigns.

573 VOTER CONTACT AND ELECTIONS 3 credits

Prequisites: six credits of political science or permission. Theoretical and practical approaches to gaining votes in all types of political campaigns.

574 POLITICAL OPINION, BEHAVIOUR AND ELECTORAL POLITICS 3 credits

Prequisites: 100 or 201 or permission. Advanced analysis of political, psychological, and group processes in opinion formation and change. Attention given to the effect of opinion change on electoral outcomes.

575 AMERICAN INTEREST GROUPS 2 credits

Prequisites: six credits of political science. Reading and research on the development, structure, and function of interest groups in the United States.

576 AMERICAN POLITICAL PARTIES 3 credits

Prequisites: six credits of political science or permission. Reading and research on the development, structure, and function of parties in the United States.

580 POLICY PROBLEMS 3 credits

May be repeated for a total of six credits. Prequisites: 350 or permission. Intensive study of selected problems in political science.

590 WORKSHOP 1 credit

May be repeated. Group studies of special topics in political science. May be used to meet undergraduate or graduate requirements in political science. Elective credit only.

591 SCOPES AND THEORIES OF POLITICAL SCIENCE 3 credits

Prequisites: 6 credits of political science or permission. Readings and research on the development, structure, and function of interest groups in the United States.

592 POLICY RESEARCH METHODS 3 credits

Prequisites: six credits of political science, including 440 or a satisfactory equivalent, and permission of the instructor. Techniques of quantitative research methodology in political science, utility, and limitations of quantitative analysis.

593 SEMINAR IN INTERNATIONAL POLITICS 3 credits

Prequisites: six credits of political science or permission. Analysis of current problems in the world and practices of politics and organization.

594 SEMINAR IN COMPARATIVE POLITICS 3 credits

Prequisites: six credits of political science or permission. Selection of topics in comparative politics. Comparative method.

595 SEMINAR IN POLITICS OF DEVELOPING NATIONS 3 credits

Prequisites: six credits of political science or permission. Selection of topics in comparative politics. Emphasis on theoretical development.

596 SEMINAR IN NATIONAL POLITICS 3 credits

Prequisites: six credits of political science or permission. Reading and research on the development, structure, and function of parties in the United States.

598 SEMINAR ON CIVIL LIBERTIES AND THE JUDICIAL PROCESS 3 credits

Prequisites: six credits of political science or permission. Civil liberties and judicial process viewed in political context. Readings and research on selected topics.

599 SEMINAR IN PUBLIC POLICY AGENDAS AND DECISIONS 3 credits

Prequisites: six credits of political science or permission. Reading and research on the development, structure, and function of parties in the United States.

600 SEMINAR IN THE ADMINISTRATIVE PROCESS 3 credits

Prequisites: six credits of political science or permission. Critical evaluation of administrative implementation of public policies. Readings and research on selected topics.

602 SEMINAR: POLITICAL INFLUENCE AND ORGANIZATIONS 3 credits

Prequisites: six credits of political science or permission. Critical evaluation of administrative implementation of public policies. Readings and research on selected topics.

603 SEMINAR IN URBAN AND REGIONAL POLITICS 3 credits

Prequisites: six credits of political science or permission. Critical evaluation of administrative implementation of public policies. Readings and research on selected topics.

604 SPECIAL TOPICS IN POLITICAL SCIENCE 3 credits

Prequisites: six credits of political science or permission. Critical evaluation of administrative implementation of public policies. Readings and research on selected topics.
660 ADVANCED INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
4 credits
Prerequisite: graduate standing in psychology or permission of instructor. An advanced survey of industrial and organizational psychology, which involves the application of psychological principles to the work place.

671 PRACTICUM IN COUNSELING PSYCHOLOGY
2 credits
Prerequisite: 630, graduate standing in psychology and permission of instructor. Extension and development of therapeutic skills and intervention techniques, with supervised training and counseling clients.

672 COUNSELING PRACTICE
4 credits
Prerequisite: 670, 672, graduate standing in psychology and permission of instructor. Extension and development of therapeutic skills and intervention techniques, with supervised training and counseling clients.

673 COUNSELING PRACTICE II
3 credits
Prerequisites: 630, 671, 672. Graduate standing in psychology and permission of instructor. Supervision of experience with emphasis on counseling skills. Prerequisite: successful completion of Counseling Clinic.

674 PERSONNEL PRACTICE
14 credits
May be repeated. Prerequisites: 630, graduate standing in psychology, 14 credits of graduate psychology and departmental permission. Supervised field experience in applied counseling psychology to provide students with the opportunity to apply skills and knowledge acquired in the academic setting and to obtain knowledge about community programs and agencies which focus on development processes.

699 MASTER'S THESIS
2 credits
May be repeated. Prerequisite: departmental permission. Research analysis of data and preparation of thesis for master's degree.

700 SURVEY OF PROJECTIVE TECHNIQUES
4 credits
Prerequisite: 630 or permission of instructor. Introduction to intuition, assumptions and criteria, and research of projective testing. Elementary administration, scoring and interpretation of projective data.

701 PERSONAL DIAGNOSIS
4 credits
Prerequisite: 650, Application of psychological testing to problems of diagnosis and evaluation. Practical experience in administration, scoring and interpretation of integrative data from a variety of psychological tests.

702 CURRENT ISSUES IN COUNSELING
4 credits
Prerequisite: 630. Advanced study of the background, theoretical foundations, techniques, and applications of counseling in science and profession.

703 SUPERVISION IN COUNSELING PSYCHOLOGY I
3 credits
Prerequisite: doctoral standing or permission of instructor. Extension and experience in supervising a graduate student in counseling.

704 INTRODUCTIONS TO CHILDREN'S PRACTICE
4 credits
Prerequisite: 630 or 630 or departmental permission. Survey of child psychology and human development. Major issues involved in child psychology covered with some emphasis on language and memory.

705 PRACTICUM IN COUNSELING II
4 credits
Prerequisite: 630 or 630 or departmental permission. Supervised field experience in administrative, consultation and integration of projective data in professional counseling and psychotherapy.

706 VIOLATIONS OF PROFESSIONAL ETHICS
4 credits
Prerequisite: 630 or permission of instructor. Examination of major issues in the field such as professional relationships, personal, and social problems, and ethics.

707 ACTIVIST PRACTICE
4 credits
Prerequisite: 630 or permission of instructor. Instruction and experience in counseling for social justice, social action and social change.

708 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY
4 credits
Prerequisite: 630 or permission of instructor. Supervision of effort in counseling students with disabilities. Supervised experience in the areas of multiculturalism, social justice, and social change.

709 PROFESSIONAL ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY
4 credits
Prerequisite: graduate standing or permission. Examination of major issues in the field such as professional relationships, personal, and social problems, and ethics.

710 OBJECTIVE PERSONALITY EVALUATION
4 credits
Prerequisites: completion of 650 or 650/650 and 672/620 and 660. Study of the developmental, administrative, and interpretive procedures of objective personality assessment (MMPI, CPI, MBTI, 16PF and selected additional inventories).

711 RESEARCH DESIGN IN COUNSELING I
3 credits
Prerequisite: doctoral standing or permission. Study of research designs, evaluation procedures, and review of current research.

714 ISSUES OF DIVERSITY IN PSYCHOLOGY
4 credits
Prerequisites: 630, one semester of practicum work. Critical examination and application of research and theory in counseling diverse populations, focusing on race/ethnicity, gender/gender identity, social orientation, age, disability, and spirituality.

718 HISTORY AND SYSTEMS IN PSYCHOLOGY
2 credits
Prerequisite: 630. Historical and systemic antecedents of psychology and the development of systematic viewpoints in the 19th and 20th centuries.

719 CHILD PSYCHOLOGY
4 credits
Prerequisite: 620 or permission. Current research in child psychology covered with some emphasis on cognitive development. Topics include language, memory, intelligence, motivation, and selected aspects of social development.

727 PSYCHOLOGY OF ADULTHOOD AND AGING
2 credits
Prerequisite: 620 or permission. Study of development, aging with emphasis on life-span methodology and research design, including age-related changes in intelligence, personality, social behavior, perception, learning, memory, and skilled performance.

728 APPLIED COGNITIVE AGING PSYCHOLOGY: SOCIAL DEVELOPMENTAL
4 credits
Prerequisites: 610, 620, 727 and graduate standing in psychology or instructor permission. Study of factors influencing social development in the later years. Topics to be covered include: social support, life stress, well-being, health, caregiving, and other issues.

730 THEORIES OF LEARNING
4 credits
Prerequisites: 630 or departmental permission. Current review of research in learning in language and memory. Process-oriented approach adopted with emphasis on developmental issues.

731 APPLIED COGNITIVE AGING PSYCHOLOGY INFORMATION PROCESSING
4 credits
Prerequisites: 610, 620, 727 and graduate standing in psychology or instructor permission. Study of learning, motivation, attention, and problems arising in adulthood and their effects on areas such as environment, design, multi-tasking, independence, neuropsychological assessment, and skilled performance.
PERSONNEL PSYCHOLOGY AND THE LAW

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

GRADUATE SEMINAR IN PSYCHOLOGY

May be repeated. Prerequisites: Graduate standing in psychology and permission. Special topics in psychology.

ADVANCED COUNSELING PRACTICE

May be repeated. Prerequisites: 735 (may be repeated). Permission of instructor. This course provides graduate students in counseling with advanced clinical interventions and supervision experiences.

INDEPENDENT READING AND/OR RESEARCH

May be repeated. Prerequisite: Individual reading and/or research on a topic selected by faculty member with whom specific arrangements have been made.

SOCIAL ISSUES IN AGING

Prerequisite: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

APPLIED COGNITIVE AGING PSYCHOLOGY: HIGHER PROCESSES

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

APPLIED COGNITIVE AGING PSYCHOLOGY: CURRENT ISSUES

Prerequisite: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

THE PSYCHOLOGY OF MENTAL RETARDATION

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

THE PSYCHOLOGY OF LEARNING DISABILITIES

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

APPLIED DEVELOPMENTAL PSYCHOLOGY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

INDUSTRIAL GONOMOTY

Prerequisites: 610, 727, and 650; graduate standing in psychology or departmental permission for others who have completed 610 and 650 (600-day age-related issues in work involving adult, older adult, and mental retardation). Topics include performance selection, testing, job analysis, and applying older adults' abilities, effectiveness, safety, job design, vocational guidance, and retirement planning.

SURVEY OF COUNSELING METHODS

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

ORGANIZATIONAL PSYCHOLOGY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

PERSONNEL SELECTION AND PERFORMANCE EVALUATION

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

TRAINING

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

RESEARCH METHODS IN PSYCHOLOGY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

COWPSYCHOLOGICAL APPLICATIONS IN PSYCHOLOGY RESEARCH

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

ROLES OF ATTITUDES AND VALUES IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

ORGANIZATIONAL MOTIVATION AND LEADERSHIP

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

ENGINEERING PSYCHOLOGY AND JOB DESIGN

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

JOB EVALUATION AND EQUAL PAY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

COGNITIVE ENGINEERING AND MACHINE DESIGN

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

INFORMATION PROCESSING AND INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

HISTORY OF SOCIOLOGICAL THOUGHT

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

CONTEMPORARY SOCIOLOGICAL THEORIES

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

SOCIOLOGICAL METHODS

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

SOCIOLOGICAL RESEARCH

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

SOCIOLOGICAL THEORIES AND METHODS

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

PSYCHOLOGY OF THE FAMILY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

SOCIOLOGICAL PERSPECTIVES ON INEQUALITY

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.

PSYCHOLOGICAL TESTS

Prerequisites: Eligibility to practice in personnel psychology, which have legal implications, are reviewed.
Courses of Instruction

550 SOCIOLOGY OF MENTAL ILLNESS 2 credits
Pre-requisites: permission. Theorizes and the role of the psychiatrist in the mental health setting; the sociological ecology of mental illness; community based treatment models; the organization of mental health systems, the role of peer mental health social workers, the mutual support groups.

594 WORKSHOP IN SOCIOLOGY 1/2 credits
May be repeated. Topics on special interest to sociology. May not be used to fulfill departmental requirements in graduate major requirements. May be used for elective credit only.

600 FUNDAMENTALS OF SOCIOLOGY 3 credits
Accredited introduction to sociology for the graduate student deficient in sociological background or from other disciplines who desire to take undergraduate courses in sociology. Lecture.

601 EMBRY AND SOCIETY 2 credits
Examination of the interplay of family and society. family function, independent variable, or micro/macro levels. Development and impact of family policies is discussed.

630 SOCIOLOGICAL RESEARCH METHODS 3 credits
Advanced research methods including advanced statistical techniques. Lecture/reading.

640 SOCIAL RESEARCH DESIGN 2 credits
Intensive analysis of problems in research design, i.e., those encountered in thesis preparation.

667 COMPUTER APPLICATIONS IN SOCIAL SCIENCES 3 credits
Pre-requisites: elementary statistics course or permission of instructor. Introduction to computer and their applications in social sciences. (Same as Ksu 72266) Seminar.

673 SOCIOLOGY OF PROGRAM EVALUATION AND PROGRAM PROGRESS 3 credits
Pre-requisite: permission. Program evaluation as it occurs in different social programs. Topics include baseline program assessment, program implementation, ethical issues, social change, use of experimentation and alternatives, and the use for program development. Seminar.

675 EPIDEMIOLOGIC METHODS IN HEALTH RESEARCH 3 credits
Pre-requisite: permission. Introduction to epidemiology and study design. Focus on the study design and identification of relationships concerning the distribution of illness and injury in society and evaluation of interventions to reduce the burden.

677 THEORETICAL SOCIOLOGY 3 credits
Examination of the classical, interpretative statements that form the foundation of sociological theory. Emphasis on classic sociological theory and its contribution to contemporary theory and research. Seminar.

690 GENERAL SYSTEMS THEORY 3 credits
Analysis of general systems theory as basis for a model of a society and as heuristic framework for theory and research. (Same as Ksu 72706) Seminar.

693 SOCIAL PSYCHOLOGY 3 credits
Interests: social psychological theory and research, both classical and current. Emphasis: provides students with background in awareness of sociological psychological aspects of social phenomena. (Same as Ksu 72428) Seminar.

694 SMALL GROUP THEORY 3 credits
Pre-requisite: permission. Theoretical and applied aspects of small group dynamics. Topics include leadership, motivation, group development and functioning, power, norms, and individual behavior. (Same as Ksu 72425) Seminar.

695 PERSONALITY AND SOCIAL SYSTEMS 3 credits
Examines theories of personality and research on linkages between personality and society. Some applications in studies of modernization, social class and occupations and changes. (Same as Ksu 72543) Seminar.

696 SOCIOLOGY OF COMMUNICATION 3 credits
Examines communication media, content, audiences and impact within sociological context. (Same as Ksu 72545) Seminar.

698 CRITICAL ISSUES IN COMMUNICATIONS RESEARCH 3 credits
Pre-requisite: permission. Systematic evaluation of functional, methodological and empirical aspects of the study of communication. Research (Same as Ksu 72546) Seminar.

699 SOCIOLOGY OF GENDER 3 credits
Pre-requisite: permission. Examination of theories and research on gender origins, development, dynamics and changes. Emphasis: recent sociological research on gender role patterns and structuring in various industrial societies. Seminar.

700 SOCIAL ORGANIZATION 3 credits
General survey of major social organizations and their problems, including authority, alienation and distribution of social organization at various levels of size and complexity. (Same as Ksu 72541) Seminar.

701 SOCIAL STRATIFICATION 3 credits
Pre-requisite: permission. Seminar dealing with social class and caste systems with special reference to American social structure. (Same as Ksu 72542) Seminar.

702 COMPLEX ORGANIZATIONS 3 credits
Pre-requisite: permission. Organizations as social systems; Their effect on individuals. Problems of professionalism in bureaucracy. (Same as Ksu 72544) Seminar.

704 SOCIOLOGY OF WORK 3 credits
Pre-requisite: permission. Examination of work as behavioral phenomenon in human societies; contrasts with non-work and leisure; significance of occupations, professional and work-type of organization of work. (Same as Ksu 72545) Seminar.

705 SEMINAR IN RACE RELATIONS 3 credits
Pre-requisite: permission. Analysis of the structure and dynamics of race and ethnicity with attention given to both historical and contemporary issues. (Same as Ksu 72705) Seminar.

706 CONFLICT 3 credits

707 MEDICAL SOCIOLOGICAL 3 credits
Pre-requisite: permission. Instructor. A general survey of the field of medical sociology with special emphasis on application of sociological concepts and methods as tools to aid in the analysis of health problems with a focus in the contemporary urban United States. (Same as Ksu 72702) Seminar.

657 URBAN HEALTH CARE 3 credits
Pre-requisite: permission. Relationships between urban social structures and organization and functioning of healthcare delivery systems in urbanized nations. Seminar.
634 FISCAL ANALYSIS
Prerequisite: permission. Study of revenue and expenditure patterns of the city's government.

635 URBAN ECONOMIC GROWTH AND DEVELOPMENT
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.

636 PUBLIC BUDGETING
Prerequisite: permission. Current professional practice and theoretical issues in public budgeting and management of capital and operating budgets.

637 INTRODUCTION TO PUBLIC POLICY
Prerequisite: permission. Introduction to models of public policy formulation, identification of major policy issues, and the analysis of policy implementation and policy impact.

638 COMPARATIVE URBAN SYSTEMS
Prerequisite: permission. Conceptual schema and methodology for comparative urban analysis among a number of similar cities selected from each continent.

639 RESEARCH FOR FUTURE PLANNING
Prerequisites: 620 and 640 and completion of eight credits of core curriculum in urban studies. An overview of the techniques associated with the field of future research and their application to long-term urban planning.

640 PROGRAM EVALUATION IN URBAN STUDIES
Prerequisite: 603 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of human service programs and policies affecting urban and metropolitan areas.

641 ALTERNATIVE URBAN FUTURES
Prerequisite: 603 or equivalent. Overview of major topics and issues associated with alternative urban futures and their implications for planning and public policy in urban communities.

642 COMPUTER APPLICATIONS IN PUBLIC ORGANIZATIONS
Prerequisites: 600 and 615. Introduction to microcomputer applications in the public sector, including word processing, data analysis, report writing, graphical representation and spreadsheets.

643 ANALYTICAL TECHNIQUES FOR PUBLIC ADMINISTRATORS
Prerequisite: 600. Public sector applications of quantitative methods, including decision analysis, queuing theory, mathematical programming, and simulation.

644 SELECTED TOPICS IN URBAN STUDIES
Prerequisite: permission. Selected topics in specific areas of urban planning, in various development principles of cities, or in various urban policy and administrative issues. A maximum of 27 credits may be earned in 680 and 681.

645 URBAN STUDIES SEMINAR
Prerequisites: 615 credits of urban studies core plus quantitative methods. Urban research methods applied to specific urban research areas. Comprehensive paper required.

646 INTERNSHIP
Prerequisite: permission. May be repeated for a total of three credits. May be repeated for a total of three credits. Faculty-supervised field experience in which student participates in policy planning, administrative operations in selected urban, state and federal governments and urban agencies.

647 INDIVIDUAL STUDIES
Prerequisite: permission. May be repeated for a total of four credits. Directed individual readings or research on specific area or topic.

648 MASTER'S THESIS
Prerequisite: permission. Supervised thesis writing. May be repeated for a total of nine credits.

649 ADVANCED RESEARCH METHODS I
Prerequisite: permission. Introduces statistics and methodology in social sciences. Emphasis on conceptual and mathematical interrelationships.

700 ADVANCED RESEARCH METHODS II
Prerequisite: 700 or equivalent. Continuation of 700. Emphasis placed upon conceptual and mathematical interrelationships of multiple statistical techniques as well as application of these techniques through computer analysis of urban data sets.

701 URBAN THEORY I
Prerequisite: permission. Review of major theoretical traditions examining urban problems; for students entering the doctoral program in urban studies, first in two-course sequence.

702 URBAN THEORY II
Prerequisite: 702. Review of major professional disciplines dealing with urban problems; for students entering the doctoral program in urban studies, second in two-course sequence.

703 PUBLIC BUREAUCRACY
Prerequisite: permission. Analysis of bureaucratic operations in the implementation of public policy, including special attributes of human service organizations and the bureaucratic theory debate.

704 ECONOMICS OF URBAN POLICY
Prerequisite: permission. Major topics of microeconomics and microeconomics of public policy.

705 PROGRAM EVALUATION
Prerequisite: permission. Advanced treatment of topics in program evaluation.

706 URBAN PLANNING AND MANAGEMENT STRATEGIES
Prerequisite: permission. Analysis of urban planning policy issues and strategies for implementation in public policy formulation. Emphasis on use of planning process as integrative mechanism.

707 URBAN POLICY THE HISTORICAL PERSPECTIVE
Prerequisite: permission. Critical examination of major ideas about the city from Aristotle to the 20th Century and at the present on urbanization and public policy.

708 SYSTEMS AND PROCESSES OF POLICY ANALYSIS
Prerequisite: permission. Analysis of administrative processes within public organizations, federal, state and local in the United States, emphasis on urban community.

709 SEMINAR IN PUBLIC ADMINISTRATION
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying public administration in the United States.

710 SEMINAR IN POLICY ANALYSIS AND EVALUATION
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying public policy analysis and evaluation in the United States.

711 SEMINAR IN URBAN AND REGIONAL PLANNING
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying urban and regional planning in the United States.
CHEMICAL ENGINEERING

CHEMICAL ENGINEERING 4200:

561 SOLIDS PROCESSING
Prerequisite: 353 or permission. Comprehensive problems in sedimentation, fluid dynamics, and other operations involving the movement of particulate solids in fluid and gas continua. 3 credits

563 POLLUTION CONTROL
Prerequisite: 353 or permission. Air and water pollution sources, problems, engineering aspects and methodology. 3 credits

566 DIGITALIZED DATA AND SIMULATION
Prerequisite: permission. Data acquisition and analysis by digital devices, digital-control applications and design. 3 credits

570 ELECTROCHEMICAL ENGINEERING
Prerequisite: 322, 323. Electrochemical engineering principles as applied to the study of electrochemical processes and to the design of electrochemical reactors. Topics include electrochemical thermodynamics, cell polarization, Faraday's laws, electrode kinetics, transport processes in electrolytic systems, current distributions, reactor design, experimental methods, commercial processes, and batteries and fuel cells. 3 credits

572 SEPARATION PROCESSES IN BIOCHEMICAL ENGINEERING
Prerequisite: 323. Introduction to the separation and purification techniques pertinent to biochemical processes, with emphasis on the engineering considerations for large-scale operations. 3 credits

560 TRANSPORT PHENOMENA
Prerequisite: 322 or permission. Systematic presentation of continuum of momentum, energy, and mass at microscopic and macroscopic levels in conjunction with fluid mechanics analogs and examples. 3 credits

506 CHEMICAL REACTION ENGINEERING
Prerequisite: 505 or permission. Kinetics of homogeneous and heterogeneous systems. Reactor design for ideal and non-ideal flow systems. 3 credits

510 CLASSICAL THERMODYNAMICS
Prerequisite: 505 or permission. Basic laws of thermodynamics and their application. Deduction and correlation of thermodynamic data. Phase and reaction equilibria. 3 credits

420 BIOCHEMICAL ENGINEERING
Prerequisite: 321. Application of chemical engineering principles to biological processes which produce desirable components of, destroy unwanted or hazardous substances. 3 credits

430 CHEMICAL PROCESS DYNAMICS
Prerequisite: 600. Development and evaluation of mathematical models for chemical processes as mixing, heat transfer, reaction, distillation, and extraction processes based on transport phenomena principles, population balance methods, and systems analysis. 3 credits

431 CHEMICAL ENGINEERING ANALYSIS
Prerequisite: 321, 322, 323. Mathematical analysis of problems in transport processes, chemical kinetics, and control systems. Solution techniques for these problems and their practical significance. Nontechnical summaries will be required for necessary theory developments. 3 credits

632 NONLINEAR DYNAMICS AND CHAOS
Prerequisite: 420, 426. Description and analysis of the complex behavior exhibited by nonlinear equations. Emphasis is on the numerical methods to quantify chaos. 3 credits

534 APPLIED SURFACTANT SCIENCE
Prerequisite: 322, 324, 325. Mathematical analysis of problems in transport processes, chemical kinetics, and control systems. Solution techniques for these problems and their practical significance. Nontechnical summaries will be required for necessary theory developments. 3 credits

640 ADVANCED PLANT DESIGN
Prerequisite: permission. Treatment of process and equipment design, scale-up, optimization, process synthesis, process economics. Case problems. 3 credits

649 HETEROGENEOUS CATALYSIS
Prerequisites: 350, 352, 353. Kinetics and mechanisms of heterogeneous and homogeneous catalytic reactions, catalyst characterization, and design of heterogeneous catalysts. 3 credits

612 TOPICS IN CHEMICAL ENGINEERING
May be repeated for a total of six credits. Prerequisite: permission. Topics selected from recently developed areas of chemical engineering, such as electrochemical engineering, field synthesis, field processing, bioengineering, supercritical fluid, and high-throughput experimentation and new experimentation techniques. 3 credits

698 MASTER'S RESEARCH
May be repeated. Research on a suitable topic in chemical engineering culminating in a master's thesis. 1-12 credits

699 MASTER'S THESIS
May be repeated. Research on a suitable topic in chemical engineering culminating in a master's thesis. 1-12 credits

711 ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS
Prerequisite: 600. Advanced theory in thermodynamics, including phase and reaction equilibrium at high pressures, phase relations for multicomponent systems, reaction equilibria in multiphase systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium thermodynamics and current topics from literature. 3 credits

716 MOMENTUM TRANSPORT
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids. 3 credits

719 NON-NEWTONIAN FLUID MECHANICS
Prerequisite: 600. Tensor and curvilinear coordinates, Newtonian viscosities, development of non-Newtonian constitutive equations. Special and general flows of various constitutive models. 3 credits

720 ENERGY TRANSPORT
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer. Advanced topics found in chemical engineering. 3 credits

725 MASS TRANSFER
Prerequisite: 600. Theory of mass transfer with applications to absorption, distillation, and heterogeneous catalysis. 3 credits

732 PROCESS CONTROL
Prerequisite: 430. Introduction to modern control theory of chemical processes, including cascade control, multivariable control, and data-sampled control. 3 credits

736 POLYMER ENGINEERING TOPICS
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiphase flow, fiber formation, etc. 3 credits

738 CHEMICAL PROCESSING OF ADVANCED MATERIALS
Prerequisite: 625. Advanced materials such as ceramics, optical materials, semiconductors, and composites. Application of reaction engineering to ceramic processing, ceramic processing, membrane formation, and chemical vapor deposition. 3 credits

746 ADVANCED CATALYSIS DESIGN
Prerequisite: 600. Development of catalysis theory and its application to the design of practical catalysts. 3 credits

756 ADVANCED POLLUTION CONTROL
Prerequisite: 430. An introduction to current environmental approaches in analytical instrumentation, air and water pollution control, hazardous waste treatment, and mushroom waste disposal. 3 credits

794 ADVANCED SEMINAR
1-12 credits

Preliminary examination required. May be repeated for a total of six credits. Prerequisite: permission of department head. Advanced project, reading, and other studies in areas of chemical engineering. May be taken for credit toward Master of Science in Chemical Engineering. 1-12 credits

Preliminary Research
1-6 credits

Doctoral Dissertation
1-6 credits

CIVIL ENGINEERING

CIVIL ENGINEERING 4300:

514 DESIGN OF BUILDING STRUCTURES
Prerequisite: 431 or permission. Design of regular structures. Concepts of structural mechanics, structural analysis, and design of structural systems. 3 credits

516 RISK AND ROCK EXPLORATION
Prerequisite: 426 or permission. Site exploration, sampling and testing methods. Theory and application of geophysical and geotechnical methods, including seismic, electrical resistivity, gravity, magnetic and radiometric measurements. 3 credits

523 CHEMISTRY FOR ENVIRONMENTAL ENGINEERS
3 credits

527 WATER QUALITY MODELING AND MANAGEMENT
Prerequisite: 522. Analysis of the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized. 3 credits

532 HAZARDOUS AND SOLID WASTES
3 credits

Prerequisite: 336 or permission. Site exploration, sampling and testing methods. Theory and application of geophysical and geotechnical methods, including seismic, electrical resistivity, gravity, magnetic and radiometric measurements. 3 credits

551 COMPUTER METHODS OF STRUCTURAL ANALYSIS
3 credits

555 SPACE STRUCTURES
3 credits

601 HAZARDOUS AND SOLID WASTES
3 credits

Prerequisite: 426 or permission. Design of regular structures. Concepts of structural mechanics, structural analysis, and design of structural systems. 3 credits

561 DESIGN OF BUILDING STRUCTURES
3 credits

563 RISK AND ROCK EXPLORATION
3 credits

Prerequisite: 426 or permission. Site exploration, sampling and testing methods. Theory and application of geophysical and geotechnical methods, including seismic, electrical resistivity, gravity, magnetic and radiometric measurements. 3 credits

567 WATER QUALITY MODELING AND MANAGEMENT
3 credits

Prerequisite: 522. Analysis of the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized. 3 credits

571 ADVANCED CIVIL ENGINEERING THERMODYNAMICS
3 credits

577 MOMENTUM TRANSPORT
3 credits

580 NON-NEWTONIAN FLUID MECHANICS
3 credits

583 PROCESS CONTROL
3 credits

Prerequisite: 430. Introduction to modern control theory of chemical processes, including cascade control, multivariable control, and data-sampled control. 3 credits

586 POLYMER ENGINEERING TOPICS
3 credits

Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiphase flow, fiber formation, etc. 3 credits

588 CHEMICAL PROCESSING OF ADVANCED MATERIALS
3 credits

Prerequisite: 625. Advanced materials such as ceramics, optical materials, semiconductors, and composites. Application of reaction engineering to ceramic processing, ceramic processing, membrane formation, and chemical vapor deposition. 3 credits

594 ADVANCED CATALYSIS DESIGN
3 credits

Prerequisite: 600. Development of catalysis theory and its application to the design of practical catalysts. 3 credits

596 ADVANCED POLLUTION CONTROL
3 credits

Prerequisite: 430. An introduction to current environmental approaches in analytical instrumentation, air and water pollution control, hazardous waste treatment, and mushroom waste disposal. 3 credits

599 ADVANCED SEMINAR
1-12 credits

Preliminary examination required. May be repeated for a total of six credits. Prerequisite: permission of department head. Advanced project, reading, and other studies in areas of chemical engineering. May be taken for credit toward Master of Science in Chemical Engineering. 1-12 credits

609 PRELIMINARY RESEARCH
1-6 credits

607 DOCTORAL DISSERTATION
1-6 credits

Prerequisite: permission. Doctoral dissertation. 1-6 credits

The University of Akron
554 ADVANCED MECHANICS OF MATERIALS 3 credits
Prerequisite: 232 or equivalent. Three-dimensional states of stress and strain analysis. Unsymmetric bending of composite plates and shells. Elasticity and plasticity in composite structures. Stress concentrations in composite members. Introduction to energy methods. Instability behavior of prismatic members.

563 TRANSPORTATION PLANNING 3 credits
Prerequisite: 365. Theory and techniques for development, analysis and evaluation of transportation systems plans. Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.

567 ADVANCED HIGHWAY DESIGN 3 credits
Prerequisite: 365. Preliminary design of modern design of pavement structures including survey data input, digital terrain modeling, cross-section templates, and vertical and horizontal roadway designs. Network computations, and advanced topics.

568 HIGHWAY MATERIALS 3 credits
Prerequisite: 351, 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 enrollment. Graduate students will be required to perform at least an additional eight-hour asphalt laboratory session to prepare a paper on a highway materials topic.

574 UNDERGROUND CONSTRUCTION 3 credits
Prerequisite: 351. Descriptions of the methods and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.

580 DYNAMICS OF STRUCTURES 3 credits
Prerequisite: 356 or equivalent. Approximate dynamic analysis of one, two, and multiple infinite degree of freedom structures using computer software. Computer-aided design and analysis of structures using finite element and finite difference methods.

584 ENERGY METHODS AND ELASTICITY 3 credits

585 PRESTRESSED CONCRETE 3 credits

586 MULTISTORY BUILDING DESIGN 3 credits
Prerequisite: 408. Other systems: supported grillage systems. Braced frame design: special framed structures and braced frame design: special framed structures. Special framed structures and braced frame design: special framed structures. Special framed structures and braced frame design: special framed structures.

590 FINITE ELEMENT ANALYSIS I 3 credits
Prerequisite: 552 or equivalent. Introduction to the finite element method. Focus on stress analysis and computer applications. Emphasis on the finite element method as a tool for solving engineering problems.

610 INTRODUCTION TO COMPOSITE MATERIALS 3 credits
Prerequisite: 544 or equivalent. Fundamental concepts of composites, composite microstructure, fiber/matrix interfaces, and deformation analysis of composite materials. Emphasis on the physics of composite behavior, design and analysis of fiber composite structures and composites.

623 FUNDAMENTALS OF SOLID MECHANICS 3 credits
Prerequisite: 311. In-depth examination of the structure and fundamental physics-chemical and mechanical properties of engineering materials such as steel, concrete, and composites.

624 ADVANCED SOLID MECHANICS 3 credits
Prerequisite: 314. Study of mechanics of behavior of solid as continuum. Principles of stress, strain, deformation, stress and strain power grid relaxation as applied to mechanical behavior of solids.

625 ADVANCED GEOTECHNICAL TESTING 3 credits
Prerequisites: 182, 152, Theory and practice of testing in civil and laboratory soil testing. Testing procedures, applicability, limitations. Design and execution of soil tests.

641 FUNDAMENTAL ENGINEERING PROBLEMS 3 credits
Prerequisite: 554. Tutorial or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Foundation design and soil-structure interaction including retaining walls, embankments and foundations. Slope stability analysis.

650 SOLID MECHANICS I 3 credits

651 NUMERICAL METHODS IN GEOTECHNICAL ENGINEERING 3 credits
Prerequisites: 311 and 314. Stability and transient flow through soils, consolidation, soil structure interaction, pile load, stress-strain analysis of earth structures.
### Electrical Engineering 4400:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>651</td>
<td>ENGINEERING ECONOMY</td>
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<td>652</td>
<td>PROGRAMMING</td>
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<td>653</td>
<td>DIGITAL COMMUNICATIONS</td>
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<td>656</td>
<td>PROGRAMMABLE LOGIC</td>
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<td>657</td>
<td>ANALYSIS OF POWER CIRCUITS</td>
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<td>658</td>
<td>POWER ELECTRONICS</td>
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<td>659</td>
<td>ELECTRONICS LABORATORY AND DESIGN PROJECT</td>
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<td>ANALYSIS OF ELECTRIC CIRCUITS</td>
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<td>661</td>
<td>ADVANCED MICROCOMPUTER SYSTEMS</td>
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<td>CONTROL SYSTEMS</td>
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**Remarks:**
- 651: Prerequisite: 353, 360, or equivalent.
- 652: Prerequisite: 2500.44 or 5 credits.
- 653: Prerequisite: 354 or equivalent.
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- 698: Prerequisite: 354 or equivalent.
- 699: Prerequisite: 354 or equivalent.
- 700: Prerequisite: 354 or equivalent.
683 ECONOMICS OF POWER SYSTEMS
Prerequisite: 681. Analysis and operation of power system for economic dispatching using a computer. 3 credits

686 PROTECTIVE RELAYING
Prerequisite: 480. Principles and application of relays as applied to protection of power systems. 3 credits

687 SURGE PROTECTION
Prerequisite: 686. Phenomena of lightning and switching surges on electrical systems. Protection of systems and apparatus by the design, utilization of protective devices and isolation coordination. 3 credits

688 DYNAMICS OF ELECTRIC MACHINES
Prerequisite: graduate status in Electrical Engineering. Voltage and mechanical differential equations of electric machines, analog and numerical methods for solution of a system of machine differential equations. 3 credits

687 POWER ELECTRONICS II
Prerequisite: 683/684 or equivalent. Effects of the undesirable of the power circuit components, rectifiers, voltage and thyristors, thyristor commutation circuits, heat transfer and thermal issues. Analysis and design of advanced power circuits. 3 credits

690 CONTROL OF ELECTRIC MACHINES
Prerequisite: Graduate status in Electrical Engineering. Elements of control circuits for electric drives, techniques for broad-band control of electric machines. 3 credits

693 SPECIAL PROBLEMS
May be taken more than once. Prerequisite: Department head. For a qualified graduate student. Supervised research or investigation in major field of experience. Credit depends upon nature and extent of project. 1-15 credits

698 MASTER'S THESIS
Prerequisite: Department of advisor. May be repeated. Research on a suitable topic in electrical engineering culminating in a master's thesis. 1-6 credits

699 MASTER'S THESIS
Prerequisite: permission of department head. Research and stress on some suitable topic in electrical engineering. 1-6 credits

748 FUNCTIONAL ANALYTIC METHODS IN SYSTEM THEORY
Prerequisite: permission of instructor. A course covering necessary background in advanced mathematical techniques for graduate students. Communication, control, and mathematics. 3 credits

753 TOPICS IN ELECTROMAGNETICS
Prerequisite: 651. Introduction to advanced techniques in fields. Topics include application of Green's function techniques and related boundary value problems. 3 credits

772 MODERN CONTROL TECHNOLOGY
Prerequisite: 684/686. An introduction to advanced control technology. Modern control techniques for linear and nonlinear, continuous and discrete, finite and infinite dimensional systems. 3 credits

774 ADVANCED LINEAR CONTROL SYSTEMS
Prerequisite: 682/684. An introduction to linear systems. Topics include control design, stability, control, and observability. 3 credits

775 ROBOT CONTROL
Prerequisite: 684/686. An introduction to linear systems. Topics include control design, stability, control, and observability. 3 credits

777 OPTIMAL CONTROL I
Prerequisite: 677. An introduction to optimal control. Topics include linear and nonlinear systems, stability, and feedback control. 3 credits

780 ADAPTIVE CONTROLS
Prerequisite: 677. An introduction to adaptive control. Topics include linear and nonlinear systems, stability, and feedback control. 3 credits

793 ADVANCED TOPICS IN CONTROL
Prerequisite: 780. Advanced topics in control systems. 3 credits

799 ADVANCED SEMINAR
May be repeated. Prerequisite: permission of department head. Advanced level coverage of specialized topics for student seeking Ph.D. in engineering. 3 credits

898 PRELIMINARY RESEARCH
May be repeated. Prerequisite: approval of dissertation director. Preliminary investigations prior to submission of a dissertation proposal to the Interdisciplinary Doctoral Committee. 1-15 credits

903 DOCTORAL DISSERTATION
May be repeated. Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of dissertation director. Original research by the doctoral student. 1-15 credits

MECHANICAL ENGINEERING
4400:

500 THERMAL SYSTEM COMPONENTS
Prerequisites: 346/348. Performance analysis and design of basic components of thermal energy exchange and conversion systems. Components studied include heat exchangers, pumps, compressors, turbines, and engines. 3 credits

501 HEATING AND AIR CONDITIONING
Prerequisites: 346, 348. Thermodynamics of gas mixtures. Design and selection of air-conditioning equipment. Control of gas mixtures, heating, cooling, and humidity. 3 credits

510 COMPRESSIBLE FLUID MECHANICS
Prerequisites: 346, 348. Analysis of gas dynamics for design of compressors, turbines, and propulsion devices. 3 credits

512 FUNDAMENTALS OF FLIGHT
Prerequisite: 340 or equivalent. Introduction to basic aerodynamics, flight mechanics, stability and control, and propulsion. Design considerations are emphasized. 3 credits

513 INTRODUCTION TO AERODYNAMICS
Prerequisites: 346 and 348. Introduction to aerodynamics concepts. Convolutional transformations, rotating theories of lift, wings of jet engines, engines of jet engines, and engines of jet engines. 3 credits

514 INTRODUCTION TO AEROSPACE PROPULSION
Prerequisites: 346 and 348. Introduction to propulsion systems currently used in the aerospace field: propulsion systems for rockets, missiles, airplanes, and rockets. 3 credits

515 ENERGY CONVERSION
Prerequisites: 346 and 348. Topics from fields of internal combustion engines, cycle analysis, and air turbulence. 3 credits

516 ENERGY TRANSFER PROCESSES
Prerequisites: 346 and 348. Analysis, design, and construction of thermal processes for heat transfer and heat exchanger with a change of gas. Thermodynamics of heat transfer. 3 credits

522 EXPERIMENTAL STRESS ANALYSIS I
Prerequisites: 436 or 438. Experimental methods of measuring stress and strain: strain gauges, photelasticity, and biaxial testing. 3 credits

530 MACHINE DYNAMICS
Prerequisite: 321. Static and dynamic analysis of machines. M10010, mechanical vibrations and stability of rotating machinery. Computer simulation and design of rotating machinery. 3 credits

531 FUNDAMENTALS OF MECHANICAL VIBRATIONS
Prerequisites: 207 and 4300. Undamped and forced vibrations of systems having one or two degrees of freedom. 3 credits

532 VEHICLE DYNAMICS
Prerequisites: 321. Application of dynamic systems analysis techniques to road vehicles. Newtonian and Lagrangian methods. Tire-road interaction. Ride characteristics, handling and stability. Digital simulation. 3 credits

540 SYSTEM DYNAMICS AND CONTROL
Prerequisites: 436, 438, or permission. Laplace transforms. Mathematical models of physical systems. Transfer function approach to system analysis and design. Computer simulation of non-linear dynamic systems. Control of linear feedback, design of control systems. 3 credits

541 CONTROL SYSTEMS DESIGN
Prerequisites: 346, 348, or permission. Advanced methods of feedback control design such as modern state feedback design, frequency domain. Compensator techniques. Multivariable and nonlinear design methods and computer-aided control design. 3 credits

542 COMPUTATIONAL SYSTEMS DESIGN
Prerequisites: 346, 348, or permission. Advanced methods of feedback control design such as modern state feedback design, frequency domain. Compensator techniques. Multivariable and nonlinear design methods and computer-aided control design. 3 credits

543 COMPUTER ARCHITECTURE
Prerequisites: 4400. An introduction to computer architecture. Design methodologies. Parallel processing. Concurrency techniques. Memory organization. System configuration. 3 credits

544 PARALLEL COMPUTER ARCHITECTURE
Prerequisite: 540. Advanced parallel processing. Design methodologies. Parallel processing. Concurrency techniques. Memory organization. System configuration. 3 credits

549 COMPUTER ARCHITECTURE II
Prerequisites: 4400. An introduction to computer architecture. Design methodologies. Parallel processing. Concurrency techniques. Memory organization. System configuration. 3 credits

551 PARALLEL COMPUTER ARCHITECTURE II
Prerequisite: 540. Advanced parallel processing. Design methodologies. Parallel processing. Concurrency techniques. Memory organization. System configuration. 3 credits

560 COMPUTER ARCHITECTURE III
Prerequisites: 4400. Advanced parallel processing. Design methodologies. Parallel processing. Concurrency techniques. Memory organization. System configuration. 3 credits

561 PARALLEL COMPUTER ARCHITECTURE III
Prerequisite: 540. Advanced parallel processing. Design methodologies. Parallel processing. Concurrency techniques. Memory organization. System configuration. 3 credits
629 NONLINEAR ENGINEERING PROBLEMS

630 VIBRATIONS OF DISCRETE SYSTEMS

631 KINETIC DESIGN

632 EXPERIMENTAL STRESS ANALYSIS II

633 COMPUTATIONAL FLUIDS

634 ADVANCED DYNAMICS OF ROTATING MACHINERY

635 STRESS WAVES IN SOLIDS AND FLUIDS

636 ROBOT DESIGN, CONTROL AND COMPUTER DESIGN

637 DISTRIBUTED PROCESS CONTROL AND DESIGN APPLICATIONS

638 PROCESS IDENTIFICATION AND COMPUTER CONTROL

639 MEASUREMENTS METHODS AND EXPERIMENTAL ERROR IN THERMOMETER SCIENCE

640 SPECIAL TOPICS IN MECHANICAL ENGINEERING

641 INTRODUCTION TO TIRE MECHANICS

642 TIRE DESIGN AND MANUFACTURING

643 COMPUTER AIDED DESIGN AND MANUFACTURING

644 GAS DYNAMICS

645 THERMODYNAMICS

646 FINITE ELEMENT ANALYSIS I

647 CONVECTION AND TRANSPORT

648 FLUID DYNAMICS

649 VIBRATION OF DISCRETE SYSTEMS

650 ENGINEERING ANALYSIS

651 ENGINEERING ANALYSIS III

652 ENGINEERING ANALYSIS IV

653 INTRODUCTION TO COMPUTATIONAL, FLUID FLOW AND CONVECTION

654 HEAT TRANSFER AND TWO-PHASE FLOW

655 CONDUCTION FLUID MECHANICS

656 CONVECTION TRANSFER AND TURBULENCE FLOW

657 EXPERIMENTAL STRESS ANALYSIS II

658 INTRODUCTION TO TIRE MECHANICS

659 TIRE DESIGN AND MANUFACTURING

660 ADVANCED DYNAMICS OF ROTATING MACHINERY

661 STRESS WAVES IN SOLIDS AND FLUIDS

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666 SPECIAL TOPICS IN MECHANICAL ENGINEERING

667 INTRODUCTION TO TIRE MECHANICS

668 TIRE DESIGN AND MANUFACTURING

669 ADVANCED DYNAMICS OF ROTATING MACHINERY

670 STRESS WAVES IN SOLIDS AND FLUIDS
Courses of Instruction

711 COMPUTATIONAL FLUID DYNAMICS I
Prerequisite: BIT or permission of instructor. Development of advanced computational techniques for simulating heat transfer, fluid flow, and other physical phenomena. Experiments in computer applications and solution of various problems using computer programs. 3 credits

712 ADVANCED THERMAL TRANSFER
Prerequisite: 4400:306 or equivalent. Analysis of advanced problems in heat transfer, including conduction, convection, and radiation. Applications to nonisothermal systems, porous media, coated surfaces, and phase change. 3 credits

713 ADVANCED MODAL ANALYSIS
Prerequisite: 623. Development of advanced solution techniques using finite elements, weighted residuals, and other methods. Applications to structural, mechanical, and thermal problems. 3 credits

714 NONLINEAR CONTINUUM MECHANICS
Prerequisite: 622. Finite deformation and strain, stress, constitutive relations, stress intensity factors, and fracture mechanics. Solution of finite deformation problems in nonlinearity, coupled thermomechanics and plasticity, elasto-plasticity, and micropolar theories. 3 credits

730 VIBRATIONS OF CONTINUOUS SYSTEMS
Prerequisite: 630. Continuation of 620. Analysis of continuous vibrating systems, using superposition of waves, energy, vibrational, Rayleigh-Ritz and other approximate techniques. Concepts and solutions of integral equations applied to continuous systems. 3 credits

731 ADVANCED SEMINAR IN MECHANICAL ENGINEERING
May be repeated for a total of 3 credits. Prerequisite: permission of department head. Advanced projects and studies in various areas of mechanical engineering, intended for students seeking Ph.D. in engineering degree. 1-3 credits

899 PRELIMINARY RESEARCH
Prerequisite: approval of dissertation director. Preliminary investigations prior to the submission of a dissertation proposal for the Interdisciplinary Doctoral Committee. 0 credits

899 DOCTORAL DISSERTATION
Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval by the dissertation director. Original research by the doctoral student. 0 credits

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BIOMEDICAL ENGINEERING 4800:

601 BIOMEDICAL INSTRUMENTATION I
Prerequisites: 3900:569, 562, and 4400:232 or 4400:323. Clinical instrumentation to measure and display physiological parameters. Basic concepts of instrument design, including design criteria and operational analysis. Practical experience gained through the use of instrumented mammalian models. 4 credits

602 BIOMEDICAL IMAGING
Prerequisite: 601 or equivalent. Statistics and experimental design topics for the biomedical and biomedicine disciplines including, distributions, hypothesis testing and estimation, ANOVA, prediction analysis and regression statistics. 3 credits

603 NEURAL NETWORKS
Prerequisite: 3900:201 or equivalent. An examination of machine learning methods, including artificial neural networks, decision trees, and support vector machines. Applications to various real-world problems. 3 credits

604 SENSORY SYSTEMS
Prerequisite: 4400:301 or equivalent. Study of the various sensory modalities from a systems engineering perspective. Techniques from linear and nonlinear systems analysis are applied to aspects of vision, hearing, touch, and posture following in humans. Computationally oriented with emphasis on modeling and simulation. 3 credits

605 BIOENGINEERING COMPUTING
Prerequisite: 4400:201 or equivalent. Computer applications in health care, clinical laboratories, biomedical research, computer-aided design, and other engineering disciplines. 3 credits

606 DIGITAL SIGNAL PROCESSING
Prerequisite: 3900:201 or equivalent. Introduction to digital signal processing, including discrete-time signals and systems, Fourier analysis, and digital filter design. Applications to biomedical engineering. 3 credits

621 PROCESSING OF BIOMEDICAL SIGNALS
Prerequisite: graduate standing in the College of Engineering or BIT or equivalent. Coverts for the analysis of biologically and continuous signals and point processes including the development of a biophysically relevant component analysis. 3 credits

624 MEDICAL IMAGING DEVICES
Prerequisite: 621 or equivalent. Phantoms, computerized tomography, magnetic resonance, ultrasonography, and computer-assisted radiography. 3 credits

625 PHYSIOLOGICAL CONTROL SYSTEMS
Prerequisite: 4400:301 or equivalent. The design and operation of physiological control systems and other biological functions. 3 credits

638 IMAGE PROCESSING FOR BIOMEDICAL DATA
Prerequisite: Image sampling, quantum mechanics, and transform techniques, including smoothing techniques and region growing for segmentation. 3 credits

640 SPINE MECHANICS
Prerequisite: 638 or equivalent. 4 credits

641 CONNECTIVE TISSUE BIOMECHANICS
Prerequisite: 640 or equivalent. 3 credits

642 HARD TISSUE BIOMECHANICS
Prerequisite: 640 or equivalent. 3 credits

644 MUSCLE MECHANICS AND OPTIMIZATION
Prerequisite: Graduate standing in the College of Engineering or by permission. 3 credits

645 MECHANICS IN PHYSIOLOGY AND MEDICINE
Prerequisites: 638 and 639 or equivalent. 3 credits

646 KINETICS OF THE HUMAN BODY
Prerequisites: 618 and 638. 3 credits

648 SYNTHETIC ORGANS
Prerequisites: 4400:301 and 4400:302 or equivalent. 3 credits

650 CARDIOVASCULAR DYNAMICS
Prerequisites: 6105:561, 6152 or equivalent. 3 credits

651 CAROTID ARTERY DISEASE AND THERAPEUTIC TECHNIQUES
Prerequisites: 6155:561, 6152 or equivalent. 3 credits

653 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE
Prerequisites: 4400:321, 4400:323, 4400:325 or equivalent. 3 credits

655 KINEMATICS OF THE HUMAN BODY
Prerequisite: 3900:201 or equivalent. 3 credits

656 REHABILITATION ENGINEERING
Prerequisite: Graduate standing in engineering, mathematics or science; or permission of the instructor. Study of physical rehabilitation techniques and their application to the design of new devices and systems. 3 credits

660 BIOMATERIALS AND LABORATORY EQUIPMENT
Prerequisites: 6100:561. Use of biostereological techniques, instrumentation and techniques for diagnosis and surgical procedures. 3 credits

661 ARTIFICIAL ORGANS
Prerequisite: graduate standing in the College of Engineering or permission of instructor. Study of the biomechanics of the human spine, the design and development of artificial heart and artificial kidney. 3 credits

662 MATHEMATICAL MODELING IN BIOLOGY AND MEDICINE
Prerequisites: graduate standing in engineering, mathematics, or physics; or permission of instructor. 3 credits

663 MEDICAL DEVICES AND ARTIFICIAL ORGANS
Prerequisite: graduate standing in engineering, mathematics, or science; or permission of instructor. 3 credits

664 RESEARCH IN BIOMEDICAL ENGINEERING
Prerequisite: research by the doctoral student. 1-15 credits

665 DOCTORAL DISSERTATION
Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student. 0 credits
EDUCATIONAL FOUNDATIONS AND LEADERSHIP

5100:

512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS
Design, adaptation and preparation of instructional materials using graphics, transparencies, production equipment, computer software, shell guides, and other procedures. 3 credits (20 clinical hours)

514 ORGANIZING AND SUPERVISING EDUCATIONAL MEDIA PROGRAMS
Prerequisite: 510 or permission of the instructor. Procedures for planning, organizing and evaluating educational media programs including resource materials and services. 3 credits

520 INTRODUCTION TO INSTRUCTIONAL COMPUTING
Examine the use of word processing, spreadsheets, databases, telecommunications and archiving software in both educational and business settings and evaluates instructional and software tools. 3 credits

580, 581, 582 WORKSHOP
Develop work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. 1 credit each

584 EDUCATIONAL INSTITUTES
Special courses designed to meet specific needs of educators and administrators. 1-3 credits

600 PHILOSOPHIES OF EDUCATION
Examination of the theoretical and philosophical problems underlying educational questions that confront society. Provides foundation for understanding of educational philosophy and society. 3 credits

602 COMPARATIVE AND INTERNATIONAL EDUCATION
Comparative and international study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education after 1945. 2 credits

603 TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION
d (May be repeated for a total of six credits) Issues and subjects related to study of educational institutions, theories and/or ideas. Different topics will be offered from section to section. 3 credits

614 PLANNING FOR TECHNOLOGY INSTRUCTION
Prerequisite: 530 or permission of instructor. Emphasizes the process of planning for the use of technology in the school. Includes plans for faculty substance and alternative arrangements of computer resources. 3 credits

615 ADULT EDUCATION
Survey course for teachers and administrators. Historical background including influences and their relation to developments in the field. Emphasizes on background and social value of current programs. 2 credits

620 PSYCHOLOGY OF INSTRUCTION FOR TEACHING AND LEARNING
Prerequisite: 512 (02) or equivalent. Current themes and research in the context of cognition and learning, development, and motivation that underly teaching in any content area. 3 credits

624 SEMINAR EDUCATIONAL PSYCHOLOGY
Prerequisite: 530 or equivalent. In-depth study of research in selected areas of learning, development, evaluation and motivation. 3 credits

630 TOPICAL SEMINAR IN COMPUTER-BASED EDUCATION
Prerequisite: 615 or permission of instructor. Advanced topical studies related to the development and demonstration of technology in educational settings. 3 credits

632 SEMINAR IN EDUCATIONAL TECHNOLOGY
Prerequisite: 615 or permission of instructor. Seminar in educational technology focused on topics of current interest. 3 credits

640 TECHNOLOGIES OF RESEARCH
Research methods and seminars commonly used in education and behavioral sciences. Preparation of research reports. Includes library, historical, survey and experimental research and the literature of various fields. 3 credits

642 TOPICAL SEMINAR IN MEASUREMENT AND EVALUATION
May be repeated for a total of six credits. Tools of current interest and need will be emphasized. The student will develop an ethically competent with contemporary measurement and evaluation techniques. 3 credits

646 MULTICULTURAL COUNSELING
Prerequisite: 624 or permission of instructor. An examination of multicultural counseling theory and research necessary to work with culturally diverse people. 3 credits

650 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN
Prerequisite: 624 or permission of instructor. An examination of individual and family development. Emphasis will be placed on understanding the relationship between the individual and family system. 3 credits

655 FIELD EXPERIENCE: MASTERS
Prerequisites: permission of department head and instructor. Area determined in accordance with student's program and professional goals. 1-3 credits

657 MASTER'S PROJECT
Prerequisite: permission of advisor. Preparation and test of a technology, learning package that includes any component of text, graphics, sound, color, motion, and the process for interaction by the target student. 2 credits

663 INDEPENDENT STUDY
Prerequisite: permission of advisor. Independent study of research oriented in education. Student must be able to demonstrate conceptual and analytical skills in dealing with problems in educational area. 1-6 credits

669 MASTER'S THESIS
Prerequisites: permission of department head and instructor. Independent study of research problem within humanistic and behavioral foundation. 3-6 credits

701 HISTORY OF EDUCATION IN AMERICAN SOCIETY
Historical development of education in American social order, with special emphasis on social, political, economic and religious setting. 3 credits

703 SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION
Prerequisite: 601 or equivalent. History and philosophy related to development and higher education in the United States. 3 credits

705 SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION
Prerequisite: 601 or equivalent. Inquiry into selected theoretical and philosophical factors affecting educational development in United States and other countries. 3 credits

711 LEARNING PROCESSES
Study of principles underlying classroom learning processes with particular emphasis on teaching as a means of modifying pupil behavior, cognitive, motor, social and affective. 3 credits

713 TEACHER BEHAVIOR AND INSTRUCTION
Prerequisite: 510 and 711. Intensive survey of theoretical and empirical literature involving teacher behavior. A student reports on theory, empirical research and applications in areas of interest to the student. 3 credits

715 STATISTICS IN EDUCATION
Prerequisites: 519 and 630. A second course in statistical methods used in educational measurement and in educational research. Emphasis on hypothesis testing. 3 credits

716 ADVANCED EDUCATIONAL STATISTICS
Prerequisites: 715. A second course in statistical methods used in educational measurement and in educational research. Emphasis on hypothesis testing. 3 credits

729 RESEARCH PROJECT IN SPECIAL AREAS
Prerequisites: permission of department head and instructor. Critical and indepth study of special problems in educational foundations. 1-3 credits

741 RESEARCH SEMINAR
Prerequisites: 630 and 715. A critical review of research literature pertinent to stated objectives in the student's field of specialization. 3 credits

877 INDEPENDENT STUDY
Prerequisites: permission of department head and instructor. May be repeated for a total of 12 credits. 1-12 credits

901 HIGHER EDUCATION ADMINISTRATION
Introduction to the study of higher education. Issues, functions, issues, trends, topics and activities in the institutions of higher education. 3 credits

915 ADMINISTRATION IN HIGHER EDUCATION
Introduction to the administration of administrative offices, functions, knowledge and skills required for administrative behavior. Trends in administrative theory and application also explored. 3 credits

921 LAW AND HIGHER EDUCATION
Prerequisite: 915. Legal aspects of higher education, sources and authority of presented, impact on, interaction with, and implications of the administration of higher education. 3 credits

925 TOPICAL SEMINAR: HIGHER EDUCATION
Prerequisite: 921. May be repeated. Critical study in a variety of areas related to public and private higher education institutions, organizations. Maximum of six credits applied to degree. 3 credits

926 STUDENT SERVICES AND HIGHER EDUCATION
Prerequisite: 921. Major decision on the delivery and evaluation of student services in higher education. 3 credits

927 THE AMERICAN COLLEGE STUDENT
Introduction to the sociopsychological lifestyle concerning the impact of college on students and the institutional response. Themes are physical, emotional, social, and cultural change and their implications. 3 credits

930 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING
Study of curriculum planning at the college and university level, factors influencing curriculum design. These are physical, cultural, social, and political problems that influence curriculum development. 3 credits

950 WORSHOP
Prerequisite: 930. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits

950 ADVANCED ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION
Prerequisite: 921. May be repeated. Emphasizing development and demonstrating of leadership abilities appropriate to the college and university setting. 1-3 credits

961 INTERNSHIP IN HIGHER EDUCATION
Prerequisites: permission of department head and instructor. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits

962 INTERNSHIP IN HIGHER EDUCATION SEMINAR
Prerequisites: permission of department head and instructor. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits

963 INTRUSIONAL AND POLICY DEVELOPMENT IN HIGHER EDUCATION
Prerequisite: permission of department head and instructor. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits

970 FINANCE AND HIGHER EDUCATION
Prerequisites: 921. Facilities students understanding of how American higher education is financed. Various methodologies used, and economic, political and historical issues involved in the development of higher education. 3 credits

972 ORGANIZATION AND POLICY DEVELOPMENT IN HIGHER EDUCATION
Prerequisite: permission of department head and instructor. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits

975 INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE COLLEGE INSTRUCTOR
Prerequisite: permission of department head and instructor. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits

985 INDEPENDENT STUDY IN HIGHER EDUCATION
Prerequisite: permission of department head and instructor. May be repeated for a total of six credits. Emphasizing development and demonstration of leadership abilities appropriate to the college and university setting. 3 credits
ELEMENTARY EDUCATION 5200:

511 CREATIVTE TECHNIQUES FOR EXPANDING CHILDREN'S LITERATURE 2 credits
Prerequisite: 266. Transformation of techniques for interpretation of children's literature including preparation of teacher's toolbox for art appreciation, creative activities, dramatics, and choral speaking.

515 MICROCOMPUTER APPLICATIONS FOR ELEMENTARY TEACHERS 3 credits
Prerequisite: 100:305 or permission of instructor. Focus is upon developing student competencies in the use of elementary education computer technology to enhance both the teacher's and student's instructional productivity.

530 ACTIVITIES TO INDIVIDUALIZE SOCIAL STUDIES 2 credits
Prerequisite: 338. Development of materials and activities for learning games, simulation exercises, learning stations, programmed field trips and map activities to provide attainment of learning objectives in order to develop an individualized, student-involved social studies program.

536 GEOMETRY AND MEASUREMENT IN ELEMENTARY SCHOOL MATHEMATICS 3 credits
Prerequisite: 336. Emphasis in geometry and measurement instruction in elementary school. Procedures for development of important geometric concepts and measurement skills.

537 STRUCTURE OF THE NUMBER SYSTEM IN ELEMENTARY SCHOOL MATHEMATICS 3 credits
Prerequisite: 336. Emphasis in geometry and measurement instruction in elementary school. Procedures for development of important geometric concepts and measurement skills.

538 MATERIALS AND LABORATORY TECHNIQUES IN ELEMENTARY SCHOOL MATHEMATICS 3 credits
Prerequisite: 336. Emphasis in the use of manipulatives to supplement mathematics instruction in the classroom. Explorations of the use of the computer as a tool for reinforcement of mathematics concepts.

539 PROPERTIES OF NUMBERS IN ELEMENTARY SCHOOL MATHEMATICS 3 credits
Prerequisite: 338. Investigation of those number properties that help explain how laws of arithmetic work. Procedures for development of important arithmetic concepts and computational skills.

540 CONTEMPORARY ELEMENTARY SCHOOL SCIENCE PROGRAMS 2 credits
Prerequisite: 5200:230. Comparative analysis of contemporary science science curriculum and procedure developed and implemented in University classrooms.

540.12.3 WORKSHOP 12 credits each
Effective use of new educational media or further use of teaching methods. Emphasis on demonstration of teaching methods and development of suitable learning devices.

545 EDUCATIONAL INSTITUTES 2 credits
Special courses designed as in-service upgrading programs. Frequently provided with the support of national foundations.

560 LITERATURE FOR YOUNG CHILDREN 2 credits
Prerequisite: 200. Literature through six years in depth in terms of value and purpose. Methods and techniques for presenting it to children, vaility and quality of books available.

561 ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION 3 credits
Prerequisite: 5200:230. Application of the findings of curriculum and instruction research involved in the development of the curriculum for the elementary classroom.

561 INTRODUCTIONS TO ELEMENTARY EDUCA 2 credits
Prerequisite: 336. Investigation of innovative programs, organizational patterns and new curricula currently applicable in elementary schools where analysis of use of these programs in relation to teaching methods.

562 THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS 2 credits
Prerequisite: 5200:230. Comparative analysis of purposes and procedures of mathematics programs for elementary schools with applications of rings to instrumental methods and materials.

563 DIAGNOSIS AND TREATMENT OF PERFORMANCE DIFFICULTIES IN ELEMENTARY SCHOOL MATHEMATICS 2 credits
Prerequisite: 5200:230. Examination of the diagnosis of learning disabilities in elementary school. Emphasis on issues of the impact on total elementary school curriculum.

564 PROBLEMS IN ELEMENTARY SCIENCE EDUCATION 2 credits
Prerequisite: 5200:230. Examination of the diagnosis of learning disabilities in elementary school. Emphasis on issues of the impact on total elementary school curriculum.

565 EDUCATION AND THE YOUNG CHILD 3 credits
Prerequisite: 200. Emphasis on the first five years of young children from birth through five years.

566 INDIVIDUALIZED INSTRUCTION LEARNING STYLE IDENTIFICATION AND RESOURCE PRES 3 credits
Prerequisite: 5200:230. Individual learning style characteristics practical considerations in individualization of instruction, review of development and instructional program.

569,695,696 FIELD EXPERIENCE MASTER'S 15 credits each
Prerequisite: permission of advisor and department head. On-the-job experience related to student's area of study.

695,696 INDEPENDENT STUDY 15 credits each
Prerequisite: permission of advisor and department head. Selected areas of independent investigation as determined by advisor and related to student's academic needs.

698 MASTER'S PROBLEM 24 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills. In dealing with a problem in elementary education.

699 MASTER'S THESIS 45 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper. Research and/or writing paper.

701 SUPERVISION OF INSTRUCTION IN THE ELEMENTARY SCHOOL 2 credits
Supervisory role of the elementary principal and other supervising personnel.

700 SEMINAR IN ELEMENTARY EDUCATION 12 credits
Prerequisite: 5200.000. Emphasis is on a typical illustrative problem involving following areas of elementary school: children's literature, curriculum development, language arts, mathematics, reading, science, social studies, and the enrichment process. Study of the content and sequence of the elementary school program.

701 RESIDENCY SEMINAR 2 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

709 RESEARCH PROJECTS IN ELEMENTARY EDUCATION 2 credits
Prerequisite: permission of advisor and department head. In-depth investigation of specific problem self-prescribed by student.

870 SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 12 credits
Prerequisite: permission of advisor and department head. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

899.5 FIELD EXPERIENCE FOR ELEMENTARY DOCTORAL STUDENT 12 credits each
Prerequisite: permission of advisor and department head. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

900 INDEPENDENT STUDY 12 credits
Prerequisite: permission of advisor and department head. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

900 DOCTORAL DISSERTATION 12 credits
Prerequisite: permission of advisor and department head. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

READING 5250:

511 MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION 3 credits
Prerequisite: 5200.000. Emphasis on selection and evaluation of reading materials and classroom organizations explored.

540 DEVELOPMENTAL READING IN THE CONTENT AREAS: ELEMENTARY 3 credits
Prerequisite: 5200.000. Emphasis on selection and evaluation of reading materials and classroom organizations explored.

541 LANGUAGE AND ITS RELATIONSHIP TO READING IN THE ELEMENTARY SCHOOL 3 credits
Prerequisite: 5200.000. Emphasis on selection and evaluation of reading materials and classroom organizations explored.

542 TEACHING READING TO CULTURALLY DIVERSE LEARNERS 3 credits
Prerequisite: 5200.000. Emphasis on selection and evaluation of reading materials and classroom organizations explored.

543 TEACHING READING TO INSEPARABLE LEARNERS 3 credits
Prerequisite: 5200.000. Emphasis on selection and evaluation of reading materials and classroom organizations explored.

690 INTENSIVE READING INSTRUCTION 2 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

691 DIAGNOSIS AND CORRECTION OF READING PROBLEMS 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

692 CLINICAL PRACTICES IN READING 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

693 READING DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS AND SUPPORT PERSONNEL 2 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

694 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

695 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION 2 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

SECONDARY EDUCATION 5300:

520 INSTRUCTIONAL AND MANAGEMENT PRACTICES 3 credits
Prerequisite: 750. Students will learn to use both teaching models and management strategies effective in improving instruction. Also included are various instructional strategies to develop management instruction.

530 CONCEPTS AND CURRICULUM DESIGNS IN ECONOMIC EDUCATION 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

540 COMPUTER APPLICATIONS FOR SECONDARY TEACHERS 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

579 VOCATIONAL BUSINESS EDUCATION 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

109,12.3 WORKSHOP 12 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources and planning of curriculum units.

109 EDUCATIONAL INSTITUTES 12 credits each
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

120 SECONDARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

225 READING PROGRAMS IN SECONDARY SCHOOLS 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

225 ADVANCED INSTRUCTIONAL TECHNIQUES IN BOOKKEEPING - ACCOUNTING AND BASIC BUSINESS SUBJECTS 3 credits
Prerequisite: 5200.000. Emphasis on the development of research and/or written research paper. In-depth research and/or writing paper. Research and/or writing paper.

Courses of Instruction 109
FIELD EXPERIENCE: MASTER'S 4 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervision of field experience related to student's program of study.

INDEPENDENT STUDY 4 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervision of independent study. Area of study determined by student's needs.

FIELD EXPERIENCE: DOCTORAL 12 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and direction of field experience. Internships arranged with experience pertinent to student's needs. Must be able to demonstrate skills and understood abilities in an on-the-job situation.

INDEPENDENT STUDY 12 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and direction of independent study. Area of study determined by student's needs.

DOCTORAL DISSERTATION 12 Credits
Prerequisite: permission of advisor. Specific research problem that requires student to apply research skills and techniques pertinent to problem being studied.

TECHNICAL AND VOCATIONAL EDUCATION 5400:

500 THE POSTSECONDARY LEARNER 3 Credits
Deepening awareness of the postsecondary learner, student issues, lecture, and strategies pertinent to successful facilitation of learning in a variety of postsecondary learning environments.

505 CURRICULUM DESIGN FOR SECONDARY AND ADULT EDUCATION 3 Credits
History and operation of current educational programs for youth and adults. Includes study of social, economic, and political influences that impact growth and expansion of education.

515 TRAINING IN BUSINESS AND INDUSTRY 3 Credits
Examines the role and mission of the training function in the modern industrial setting. Functional analysis of a training system and how it becomes an industrial training or training support function of a supervisor and other occupational development levels.

520 SYSTEMATIC CURRICULUM DESIGN FOR TECHNICAL INSTRUCTION 3 Credits
Prerequisite: ED500. Designed to develop skills for the determination of curricular and classroom development that integrate an organized sequence of instructional units.

535 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION 3 Credits
Prerequisites: ED500 and ED505. Selected topics in instructional techniques appropriate to postsecondary technical education. Emphasis on instructional methods, techniques in classroom, laboratory, including tests, measurements.

541 EDUCATIONAL GERONTOLOGY SEMINAR 3 Credits
Prerequisite: permission of instructor. Seminar in gerontology and educational and health care for the aging. Includes group discussion of current issues, identification of problems, and group planning and workshops for older persons.

581 HOME ECONOMICS JOB TRAINING 3 Credits
Prerequisite: senior standing or permission of instructor. Concepts of occupational preparation for a specialization in educational gerontology, including personal responsibility for development and implementation of curricular materials, curricular planning, and the development of a helping relationship.

585 WORKSHOP 1-3 Credits
Individual workshops focused on common curricular problems, utilization of common resources, planning of curricular units.

594 EDUCATIONAL INSTITUTES 3 Credits
Special institutes designed as in-service upgrading programs, frequently provided as the support of national foundations.

600 THE TWO-YEAR COLLEGE 3 Credits
An in-depth analysis of the history, purpose and philosophy of the two-year college, types of institutions offering two-year programs, management, issues and trends.

605 ADVANCED SYSTEMATIC CURRICULUM DESIGN FOR TECHNICAL INSTRUCTION 3 Credits
Prerequisite: ED500. An examination of the instructional design process for technical instruction and a review of research on effective performance-based technical program planning and evaluation.

610 COMMUNICATION WITH BUSINESS AND INDUSTRY 2 Credits
Techniques of establishing better communications between education and business and industry. Emphasis on interpersonal, coordination functions and workshops with local professional associations in the community.

615 ADVANCED TECHNICAL INSTRUCTIONAL DEVELOPMENT 3 Credits
Prerequisites: ED500/ED505. An in-depth analysis of assessment of technical instruction and research on methods of technical instruction.

620 SUPERVISION OF TECHNICAL INSTRUCTION 3 Credits
Prerequisites: ED430, ED435, and ED530. An examination of the role of supervision in technical instruction, supervision of technical instruction, professional development, as well as related leadership and management issues.

661 CURRENT ISSUES IN HIGHER EDUCATION 2 Credits
May be repeated for a total of three credits. Prerequisites: permission of instructor. Examination of current problems and issues in institutions of higher education, adult education, technical institutes, community colleges, proprietary schools, undergarment and professional education.

669 INSTRUCTION: TEACHING VOCATIONAL EDUCATION 3 Credits
Prerequisites: completion of all required Technical Education coursework. Technical instruction to curriculum development, under supervision from the University and the learning organization. Includes a supervisor and student development.

695 FIELD EXPERIENCE: MASTER'S 14 Credits
Prerequisites: permission of advisor and supervision of field experience. On-the-job experience related to student's program of study. (Credit/No credit)

697 INDEPENDENT STUDY 12 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervision of independent study. Area of study determined by student's needs.

698 MASTER'S PROBLEM 24 Credits
Prerequisite: permission of advisor. In-depth study of research problems in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

721 SUPERVISION OF INSTRUCTION IN THE SECONDARY SCHOOL 2 Credits
Definition of supervisory function and role in improving instruction at secondary school level and development of practices for secondary school supervision.

780 SEMINAR IN SECONDARY EDUCATION 1-3 Credits
May be repeated as an intensive examination of a particular area of secondary education.

782 RESIDENCY SEMINAR 1 Credit
Must be repeated; one-hour per week for secondary education doctoral student in residence.

784 SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 1-3 Credits
May be repeated for a total of nine credits. An intensive examination of a particular area of teacher education.

950 PHYSICAL EDUCATION 5550:

536 FOUNDATIONS AND ELEMENTS OF ADAPTED PHYSICAL EDUCATION 2 Credits
Prerequisites: permission of advisor. Prerequisites: permission of advisor and supervision of independent study. Area of study determined by student's needs.

541 ADVANCED ATHLETIC INJURY MANAGEMENT 4 Credits (30 clinical hours)
Prerequisite: ED400. Advanced training and evaluation of athletic training personnel for the student desiring to become a certified athletic trainer according to the regulations of the National Athletic Trainers' Association.

542 THERAPEUTIC MODALITIES AND EQUIPMENT IN SPORTS MEDICINE 3 Credits (30 clinical hours)
Prerequisites: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

551 ASSESSMENT AND EVALUATION IN ADAPTED PHYSICAL EDUCATION 3 Credits (30 clinical hours)
Prerequisites: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

594 MODIFICATIONS AND ADOPTION OF PHYSICAL AND HEALTH EDUCATION, RECREATION AND DANCE 3 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

595 EDUCATIONAL INSTITUTES AND FOUNDATIONS 1 Credit
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

601 SUPERVISION AND ADMINISTRATION OF PHYSICAL AND HEALTH EDUCATION, RECREATION AND DANCE 3 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

602 MOTOR BEHAVIOR 3 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

603 PHYSICAL EDUCATION AND HEALTH EDUCATION: INSTRUCTIONAL STRATEGIES 3 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

604 CURRENT ISSUES IN PHYSICAL EDUCATION 2 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

610 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE 2 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

620 STATISTICS: QUANTITATIVE AND QUALITATIVE METHODS 3 Credits
Prerequisites: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

690 MOTIVATIONAL ISSUES IN PHYSICAL EDUCATION 3 Credits
Prerequisite: Permission of advisor. In-depth study of techniques and skills among persons capable of using therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

695 FIELD EXPERIENCE: MASTER'S 14 Credits (0-180 field hours)
Prerequisites: permission of advisor and supervision of field experience. On-the-job experience related to student's program of study. (Credit/No credit)

697 INDEPENDENT STUDY 12 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervision of independent study. Area of study determined by student's needs.

698 MASTER'S PROBLEM 24 Credits
Prerequisite: permission of advisor. In-depth study of research problems in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

699 MASTER'S THESIS 44 Credits
Prerequisite: permission of advisor. In-depth study of research problems in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

610 COMMUNICATION WITH BUSINESS AND INDUSTRY 2 Credits
Techniques of establishing better communications between education and business and industry. Emphasis on interpersonal, coordination functions and workshops with local professional associations in the community.

615 ADVANCED TECHNICAL INSTRUCTIONAL DEVELOPMENT 3 Credits
Prerequisites: ED500/ED505. An in-depth analysis of assessment of technical instruction and research on methods of technical instruction.

620 SUPERVISION OF TECHNICAL INSTRUCTION 3 Credits
Prerequisites: ED430, ED435, and ED530. An examination of the role of supervision in technical instruction, supervision of technical instruction, professional development, as well as related leadership and management issues.

661 CURRENT ISSUES IN HIGHER EDUCATION 2 Credits
May be repeated for a total of three credits. Prerequisites: permission of instructor. Examination of current problems and issues in institutions of higher education, adult education, technical institutes, community colleges, proprietary schools, undergarment and professional education.

669 INSTRUCTION: TEACHING VOCATIONAL EDUCATION 3 Credits
Prerequisites: completion of all required Technical Education coursework. Technical instruction to curriculum development, under supervision from the University and the learning organization. Includes a supervisor and student development.

695 FIELD EXPERIENCE: MASTER'S 14 Credits (0-180 field hours)
Prerequisites: permission of advisor and supervision of field experience. On-the-job experience related to student's program of study. (Credit/No credit)

697 INDEPENDENT STUDY 12 Credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervision of independent study. Area of study determined by student's needs.

698 MASTER'S PROBLEM 24 Credits
Prerequisite: permission of advisor. In-depth study of research problems in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

699 MASTER'S THESIS 44 Credits
Prerequisite: permission of advisor. In-depth study of research problems in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.
OUTDOOR EDUCATION

5560:

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.

552 RESOURCES AND RESOURCE MANAGEMENT FOR THE TEACHING OF OUTDOOR EDUCATION 4 credits
Resource and instructional techniques which are applicable to outdoor education and includes study of methods and uses, unique to the process of teaching.

556 OUTDOOR PURSUITS 4 credits
Investigation and participation in practical experiences in outdoor pursuits.

580 WORKSHOP: OUTDOOR EDUCATION 2 credits
Practical application of contemporary ideas, methodologies, knowledge relevant to outdoor education. Emphasis on participant involvement in educational practices, utilizing the natural environment as a teaching source.

584 INSTITUTIONAL OUTDOOR EDUCATION 4 credits
Practical experience with current researchers/commentaries involving expert resource persons in outdoor education.

586 OUTDOOR EDUCATION RURAL INFLUENCES 2 credits
Preparation for field or outdoor education of rural area as a learning teaching environment. Content and methodology appropriate for teaching visually impaired children in rural settings.

588 OUTDOOR EDUCATION: SPECIAL TOPICS 2 credits
May be repeated with change in topic. Prerequisite: permission of instructor. Group and individual study of special topics of contemporary concern in outdoor education.

590 PRACTICUM IN OUTDOOR EDUCATION 2 credits
Field experience in preparation for field experience or special project related to outdoor education. 

595 FIELD EXPERIENCE: MASTER'S 2 credits
Prerequisite: permission of advisor. Preparation and documentation of practical professional experience related to outdoor education.

600 INDEPENDENT STUDY 3 credits
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to outdoor education. Documented research required.

605 MASTER'S PROBLEM 2 credits
Prerequisite: permission of advisor. Intensive research study related to a problem in outdoor education related discipline.

609 MASTER'S THESIS 4 credits
An original composition demonstrating independent scholarship in a discipline related to outdoor education.

HEALTH EDUCATION

5570:

521 COMPREHENSIVE SCHOOL HEALTH 4 credits
Prerequisite: admission to Graduate School. This course explains and presents comprehensive school health curriculum for K-12. The three components of a comprehensive school health program are presented: instruction, services, and the evaluation.

EDUCATIONAL GUIDANCE AND COUNSELING

5600:

550 COUNSELING PROBLEMS RELATED TO LIFE-THREATENING ILLNESS AND DEATH 2 credits
Prerequisite: permission of advisor. Consideration of the global issues, current research, coping behaviors, support systems and family and individual needs in regard to life-threatening situations.

5602 WORKSHOP 13 credits
Special concentration designed as intercultural and/or upgrading individuals on current issues and practices in counseling.

5603 WORKSHOP 15 credits
Special concentration designed as intercultural and/or upgrading individuals on current issues and practices in counseling.

5604 COUNSELING INSTITUTE 14 credits
In-depth counseling for counselors and other helping professionals.

5605 SEMINAR IN COUNSELING 1 credit
Prerequisite: counseling majors must elect 650 prior to electing 685 (and within the first 12 credits of 650). Course work structured group experience designed to help a student assume position in counseling as a profession.

5606 INTRODUCTION TO COUNSELING 2 credits
Understanding guiding and counseling principles including evaluation, cooperation, and operation of guidance programs for non-counseling majors.

5607 COUNSELING SKILLS FOR TEACHERS 3 credits
Prerequisite: permission of instructor. Seminar in the study of counseling principles in the role of counselor. The study of techniques utilized by teachers in working with students, parents and colleagues.

5608 TOPICAL SEMINAR 2 credits
Prerequisite: permission of instructor. Seminar on a topic of current interest in the profession. Specific topics will be determined by the availability of faculty.

5610 ELEMENTARY SCHOOL GUIDANCE 3 credits
Prerequisite: 414 or 624. Seminar in counseling for elementary teachers. Examination of techniques utilized in counseling elementary school students.

5611 SECONDARY SCHOOL GUIDANCE 3 credits
Introductory course: examine counseling and counseling practices.

5612 COMMUNITY COUNSELING 3 credits
Examination of community and college counseling services; their evaluation, philosophy, organization and administration.

5613 COUNSELING THEORY AND PHILOSOPHY 3 credits
Examination of major counseling theories including client-centered, behavioral and existential theories. Philosophical and theoretical dimension considered.

5614 TESTS AND APPRAISALS IN COUNSELING 2 credits
Prerequisite: 560 or 245. Study of the nature of tests and appraisal in counseling including technical, validity, reliability, construction and selection, administration, scoring, and interpretation of selected instruments.

5615 MULTICULTURAL COUNSELING 3 credits
Prerequisite: 551 or permission of instructor. Examination of multicultural counseling theory and necessary to work with culturally diverse people.

5616 CARRIER DEVELOPMENT AND COUNSELING ACROSS THE LIFE-SPAN 2 credits
Counseling theories and activities designed to help individuals make a total life decision. Personal and social forces which affect choice, career goals, and implementation are discussed.

5617 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFE-SPAN 2 credits
Examination of the nature of individual and family development. Emphasis will be placed on understanding the relationship between the individual and family.

5618 COUNSELING AND PERSONNEL SERVICES IN HIGHER EDUCATION 2 credits
Prerequisite: 560 or permission. Counseling services as related to psychological needs and problems of the college student.

5619 TECHNIQUES OF COUNSELING 3 credits
Prerequisite: 560. Study and practice of selected counseling techniques and skills with emphasis on interviewing, testing and establishing a counseling relationship.

5620 GROUP COUNSELING 3 credits
Prerequisites: 560 and 564, or 554. Emphasis is placed on providing the client with the knowledge and understanding of the group: research and techniques necessary for group counseling sessions.

5621 MARRIAGE AND FAMILY THERAPY: THEORY AND TECHNIQUES 2 credits
Insight into the theories and practices of marriage and family therapy, including exposure to the marital, family, and individual therapy needed for significant problems in the family.

5622 CONSULTANT COUNSELING 2 credits
Prerequisites: 601, 651, or permission. Examination of consultation models with focus on practical and theoretical.

5623 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES 2 credits
Prerequisite: 560 or permission. Development of a comprehensive articulated guidance program.

5624 SEMINAR IN SCHOOL COUNSELING 2 credits
Prerequisites: 565, 645, 541, and 542. Study of specific guidance techniques and materials useful to counseling work with the secondary school student, teacher, and parents.

5625 COUNSELING PRACTICE 3 credits
Prerequisite: 560 or permission. Study of topics of concern in a student specializing in community and college counseling. Topics may differ with semester according to student's needs.

5654 MARITAL THERAPY 2 credits
Prerequisite: 560, 1 credit. In-depth study of the techniques and interventions which focus on the nature and quality of marital relationships.

5655 SYSTEMS THEORY IN FAMILY THERAPY 2 credits
Prerequisite: 560. In-depth examination of systems theory in family therapy. Major assumptions of systems theory will be examined and the implications for interventions will be explored.

5656 ADDICTION COUNSELING I: THEORY AND PRACTICE 3 credits
Prerequisite: a graduate degree in research and counseling techniques or equivalent with instructor's permission. This course is designed to familiarize the student with the principles, theoretical models, and the empirical foundations for addiction counseling.

5657 PRACTICUM IN COUNSELING I 2 credits
Prerequisite: 560. Supervised counseling experience with individuals and small groups.

5658 PRACTICUM IN COUNSELING II 2 credits
Prerequisite: 560. Supervised counseling experience.

5659 INTERNSHIP IN COUNSELING 1-4 credits
May be repeated for a total of 7 credit hours. Prerequisite: 565. Field or on-site supervised counseling experience.

5660 FIELD EXPERIENCE: MASTER'S 2 credits
Prerequisite: permission of advisor and placement head. Placement in selected setting for purpose of gaining experiences and demonstrating skills related to student's counseling program.

5661 INDEPENDENT STUDY 1-3 credits
May be repeated for a total of 6 credit hours. Prerequisites: permission of advisor and department head. Specific area of investigation determined in accordance with student's needs.

5662 MASTER'S PROJECT 2 credits
Prerequisite: permission of advisor. In-depth study of a research problem. Study must be able to demonstrate critical and analytical skills in dealing with a problem in educational guidance.

5663 MASTER'S THESIS 4-6 credits
Prerequisite: permission of advisor and dissertation head. In-depth study and analysis of counseling problem.

5664 ADVANCED COUNSELING PRACTICUM 4 credits
Prerequisite: 560. Supervised counseling experience with individuals and small groups.

Courses of instruction 111
7027: SUPERVISION IN COUNSELING. PSYCHOLOGY I. 2 credits each.

710: THEORIES OF COUNSELING AND PSYCHOTHERAPY
Prerequisites: 3950/4950. Major theories of counseling explored, with particular emphasis on research methods.

711: VOCATIONAL BEHAVIOR
Prerequisite: 3750/4750. Principles and methods of vocational counseling, with particular emphasis on research methods.

712: PRINCIPLES AND PRACTICE OF INTELLIGENCE TESTING
Prerequisites: 3570/4570 and 3750/4750. Historical and contemporary theories of intelligence testing, with particular emphasis on research methods.

713: PROFESSIONAL, ETHICAL, AND LEGAL ISSUES IN COUNSELING AND PSYCHOLOGY
Prerequisite: 3750/4750. Analysis of professional and ethical issues in counseling, with particular emphasis on research methods.

714: OBJECTIVE PERSONALITY EVALUATION
Prerequisite: Completion of 3750/4750. Historical and contemporary theories of objective personality evaluation, with particular emphasis on research methods.

715: HISTORY AND SYSTEMS IN PSYCHOLOGY
Prerequisite: 3750/4750. Historical and contemporary systems in psychology, with particular emphasis on research methods.

716: TOPICAL SEMINAR GUIDANCE AND COUNSELING
Prerequisite: Permission of instructor. A seminar in guidance and counseling techniques, with particular emphasis on research methods.

717: ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY
Prerequisites: 3750/4750, 3160/4160. Major issues in counseling psychology, with particular emphasis on research methods.

718: HISTORY AND SYSTEMS IN PSYCHOLOGY
Prerequisite: 3750/4750. Historical and contemporary systems in psychology, with particular emphasis on research methods.

719: ADJUDICATION: ASSESSMENT AND TREATMENT PLANNING
Prerequisite: 3750/4750. Historical and contemporary theories of adjudication, with particular emphasis on research methods.

720: AGGRESSION AND TREATMENT STRATEGIES
Prerequisite: 3750/4750. Historical and contemporary theories of aggression and treatment strategies, with particular emphasis on research methods.

721: ABUSE OF MENTAL PROFESSIONAL PRACTICE
Prerequisite: 3750/4750. Historical and contemporary theories of abuse of mental professional practice, with particular emphasis on research methods.

722: OUTCOME RESEARCH IN MARRIAGE AND FAMILY THERAPY
Prerequisite: 3750/4750. Historical and contemporary theories of outcome research in marriage and family therapy, with particular emphasis on research methods.

723: COUNSELING PSYCHOLOGY PRACTICUM
Prerequisite: 3750/4750. Fieldwork in counseling psychology, with particular emphasis on research methods.

724: INDEPENDENT READING/RESEARCH IN COUNSELING PSYCHOLOGY
Prerequisite: 3750/4750. Independent reading and research in counseling psychology, with particular emphasis on research methods.

725: RELIGION EXPERIENCE: DOCTORAL
Prerequisite: 3750/4750. Historical and contemporary theories of religion experience, with particular emphasis on research methods.

726: INDEPENDENT STUDY
Prerequisite: 3750/4750. Independent study in a specialized area of counseling psychology, with particular emphasis on research methods.

727: DOCTORAL DISSERTATION
Prerequisite: Doctoral permission. Major dissertation topic, with particular emphasis on research methods.

SPECIAL EDUCATION 5610:

540: DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONALLY INTELLIGENT INDIVIDUALS
Prerequisites: 3750/4750, 3570/4570. Historical and contemporary theories of intelligence, with particular emphasis on research methods.

541: DEVELOPMENTAL CHARACTERISTICS OF THE MENTALLY RETARDED
Prerequisite: 445/545. A survey of the history, diagnosis, classification, and educational characteristics of the mentally retarded.

542: DEVELOPMENTAL CHARACTERISTICS OF THE SPECIFIC LEARNING DISABLED
Prerequisites: 445/545, 457/557. A survey of the history, diagnosis, classification, and educational characteristics of the specific learning disabled.

543: DEVELOPMENTAL CHARACTERISTICS OF THE SPECIFIC HANDICAPPED
Prerequisite: 445/545. A survey of the history, diagnosis, classification, and educational characteristics of the specific handicapped.

544: DEVELOPMENTAL CHARACTERISTICS OF THE SEVERE HANDICAPPED
Prerequisite: 445/545. A survey of the history, diagnosis, classification, and educational characteristics of the severe handicapped.

545: DEVELOPMENTAL CHARACTERISTICS OF THE ORTHOPEDICALLY HANDICAPPED
Prerequisite: 445/545. A survey of the history, diagnosis, classification, and educational characteristics of the orthopedically handicapped.

546: DEVELOPMENTAL CHARACTERISTICS OF THE SEVERE HANDICAPPED
Prerequisite: 445/545. A survey of the history, diagnosis, classification, and educational characteristics of the severe handicapped.

547: SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of early childhood special education programming.

548: SPECIAL EDUCATION PROGRAMMING: SECONDARY/VOCATIONAL
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of secondary and vocational special education programming.

549: SPECIAL EDUCATION PROGRAMMING: AXIOMATIC/PHILOSOPHICAL
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of axiomatic and philosophical special education programming.

550: SPECIAL EDUCATION PROGRAMMING: PROFESSIONAL, ETHICAL, AND LEGAL ISSUES
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of professional, ethical, and legal special education programming.

551: SPECIAL EDUCATION PROGRAMMING: INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of intellectually gifted special education programming.

552: SPECIAL EDUCATION PROGRAMMING: SEVERE BEHAVIOR HANDICAPPED
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of severe behavior handicapped special education programming.

553: SPECIAL EDUCATION PROGRAMMING: BEHAVIORAL DISORDERS
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of behavior disorders special education programming.

554: SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of early childhood special education programming.

555: SPECIAL EDUCATION PROGRAMMING: SECONDARY/VOCATIONAL
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of secondary and vocational special education programming.

556: SPECIAL EDUCATION PROGRAMMING: AXIOMATIC/PHILOSOPHICAL
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of axiomatic and philosophical special education programming.

557: SPECIAL EDUCATION PROGRAMMING: PROFESSIONAL, ETHICAL, AND LEGAL ISSUES
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of professional, ethical, and legal special education programming.

558: SPECIAL EDUCATION PROGRAMMING: INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of intellectually gifted special education programming.

559: SPECIAL EDUCATION PROGRAMMING: SEVERE BEHAVIOR HANDICAPPED
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of severe behavior handicapped special education programming.

560: SPECIAL EDUCATION PROGRAMMING: BEHAVIORAL DISORDERS
Prerequisite: 445/545. Developmental, theoretical, and contemporary issues in the development and implementation of behavior disorders special education programming.
SCHOOL PSYCHOLOGY

5620:

590 WORKSHOP
3 credits
Prerequisite: Permission of instructor. Opportunity for practical experience provided periodically as needed and/or as resources become available.

591.2 WORKSHOP
3 credits each
Prerequisite: Permission of instructor. Opportunity for practical experience provided periodically as needed and/or as resources become available.

594 SCHOOL PSYCHOLOGY INSTITUTES
3 credits
Prerequisite: Permission of instructor. Specifically designed learning experience for program graduate focusing on critical topics.

600 SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST
3 credits
Prerequisite: Permission of instructor. Consideration of cognitive development theories and their application for educational programming.

602 BEHAVIORAL ASSESSMENT
3 credits
Prerequisite: Permission of instructor. Overview of behavior theory and its application focusing upon the role of the school psychologist as an agent of change.

603 CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY
3 credits
Prerequisite: Permission of instructor. A consideration of consultation roles in the practice of school psychology as related to consultant process and with school and agency personnel, parents, and children.

610 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS
4 credits
Prerequisite: Permission of instructor. Critical study and application of current assessment approaches applicable in assessment of children’s learning problems.

611 PRACTICUM IN SCHOOL PSYCHOLOGY
4 credits
Prerequisite: Permission of instructor. Laboratory experience in psychoeducational study of individual children who have learning problems in school. (Repeat requirement)

630.1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/SPRING
3 credits each
Prerequisite: Permission of instructor. Full-time paid work assignment under supervision of a qualified school psychologist for an academic year structured according to provisions of State Department of Education. Additional readings required.

640 FIELD SEMINAR I: CURRENT PROFESSIONAL TOPICS/ISSUES IN SCHOOL PSYCHOLOGY
3 credits
Prerequisite: Permission of instructor. Consideration of pertinent topics/issues in practice of school psychology and a problem-solving discussion of past school psychology experiences.

641 FIELD SEMINAR II: LOW INCIDENCE/RELATED INQUIRIES
2 credits
Prerequisite: Permission of instructor. Consideration of pertinent topics/issues in practice of school psychology with emphasis on field-based concerns of a practicing school psychologist.

649 RESEARCH PROJECT IN SPECIAL AREAS
3 credits
Prerequisite: Permission of instructor. Study, analysis, and reporting of school psychology problem.

695 FIELD EXPERIENCE: MASTER’S
3 credits
Prerequisite: Permission of instructor. Practical school psychology-related experience in school setting.

MULTICULTURAL EDUCATION

5630:

581 MULTICULTURAL EDUCATION IN UNITED STATES
3 credits
In-depth study of the cultural dimensions of American education. Comparisons of urban, suburban, and rural educational settings with reference to socioeconomic differences.

582 CHARACTERISTICS OF CULTURALLY DIVERSE POPULATIONS
3 credits
Characteristics of culturally diverse populations with focus on youth in low-income areas. Emphasis on cultural, social, economic and educational considerations and their implications.

583 PREPARATION FOR TEACHING CULTURALLY DIVERSE POPULATIONS
3 credits
Gain knowledge of learning styles, motivational, instructional, and management techniques, and prepare/adjust instructional materials for diverse populations.

584 PRINCIPLES OF BILINGUAL/MULTICULTURAL EDUCATION
3 credits
Prerequisite: Permission of instructor. Course applies methodologies for teaching language arts in the bilingual/multicultural classroom. The bilingual student’s native language, culture, and history.

585 TEACHING READING AND LANGUAGE ARTS TO BILINGUAL STUDENTS
3 credits
Prerequisite: Permission of instructor. Course applies methodologies for teaching language arts in the bilingual/multicultural classroom. The bilingual student’s native language, culture, and history.

586 TEACHING MATHEMATICS, SOCIAL STUDIES AND SCIENCE TO BILINGUAL STUDENTS
3 credits

587 COURSES FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN THE BILINGUAL CLASSROOM
4 credits
Prerequisite: Permission of instructor. Course applies methodologies for teaching English as a second language in the bilingual/multicultural classroom. The bilingual student’s native language, culture, and history.

588 EDUCATION OF CULTURALLY DIVERSE POPULATION
2 credits
Prerequisites: Knowledge of the bilingual/multicultural classroom, the bilingual student’s native language, culture, and history.

EDUCATIONAL ADMINISTRATION

5700:

590,1,2,3 WORKSHOP
13 credits
Prerequisite: Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

594 EDUCATIONAL INSTITUTES
14 credits
Open courses designed to in-service upgrading programs, frequently provided with the support of curriculum units.

601 PRINCIPLES OF EDUCATIONAL ADMINISTRATION
3 credits
A perspective of educational administration and the context in which it operates, with emphasis on the processes, tasks, roles and relationships involved and career opportunities.

602 SCHOOL BUSINESS ADMINISTRATION
2 credits
An examination of the changing role of today’s school business administrator and study of new managerial, administrative, and financial functions from the perspectives of principals, business administrators and superintendents.

603 ADMINISTRATION OF EDUCATIONAL PERSONNEL
2 credits
A perspective on human resource management and a practical orientation to the major dimensions of the personnel function.

604 SCHOOL/COMMUNITY RELATIONS
3 credits
An analysis of the principles, practices, issues, and materials that facilitate the adjustment and interpretation of schools to their internal and external publics.

606 EVALUATION IN EDUCATIONAL ORGANIZATIONS
3 credits
Analysis of the evaluation of the effectiveness of educational programs and decisions involving curriculum decisions and organizational effectiveness.

607 SCHOOL LAW
2 credits
An analysis of the legal principles underlying education in the United States as reflected in statutory provisions, court decisions and administrative orders.

608 SCHOOL FINANCE AND ECONOMICS
3 credits
A perspective of financial operations of school systems, including taxes, other sources of revenue, expenditures, budgeting and the effects of economic factors.

609 PRINCIPLES OF CURRICULUM DEVELOPMENT
3 credits
A perspective on the planning, development, implementation and evaluation of instructional programs emphasizing the major objectives, functions and structures necessary to shape, implement and evaluate them.
PRINCIPLES OF EDUCATIONAL SUPERVISION 3 credits
Study of principles, organizations and techniques of supervision with view to improvement of instruction.

SUPERVISION OF STUDENT TEACHING 2 credits
Primary aspects of supervising candidates in guidance of student teachers. Topics include responsibilities for student teaching, directing teacher and college supervisor relationships, use of the conference, democracy and observation.

ADMINISTRATION OF EDUCATIONAL FACILITIES 2 credits
A comprehensive view of the principles, practices and new dimensions involved in the planning and management of educational facilities.

ADMINISTRATION OF PUPIL SERVICES 2 credits
Overview of pupil services relating to the nature and development of each component program and discussion of current issues and trends.

COMPUTER APPLICATIONS IN EDUCATIONAL ADMINISTRATION 2 credits
A practical course providing hands-on experience with basic software programs. Computer assisted instruction and word processing for administrators and educational organizations.

SECONDARY SCHOOL ADMINISTRATION 3 credits
An introduction to the secondary principal's role and working relationships and an examination of the principles and strategies involved in successful administration of a secondary school.

ELEMENTARY SCHOOL ADMINISTRATION 3 credits
Examination of the elementary school principalship as it relates to the development and maintenance of a school climate most conducive to learning.

FIELD EXPERIENCE I: ELEMENTARY ADMINISTRATION 2 credits
A supervised, on-the-job administration experience in staff personnel, pupil personnel, curriculum, community and physical facilities.

FIELD EXPERIENCE II: SECONDARY ADMINISTRATION 2 credits
A cooperative, field-based experience in a secondary school involving observation and activities in the administrative task areas.

FIELD EXPERIENCE III: ELEMENTARY ADMINISTRATION 3 credits
Prerequisites: EDA and permission of instructor. Culmination of the preparatory program for elementary school principals in which students perform administrative tasks supervised by experienced principal.

FIELD EXPERIENCE FOR SUPERVISORS 3 credits
Prerequisite: completion of all course work in the program. Designed to help the student apply the knowledge and skills relative to direct assistance, curriculum development, in-service staff development, growth and action research.

FIELD EXPERIENCE II: SECONDARY ADMINISTRATION 3 credits
A cooperative, field-based experience in a secondary school with emphasis on project performance in the administrative task areas.

INDEPENDENT STUDY 13 credits
(Independent study may be repeated for a total of six credits) Prerequisites: permission of supervisor and of the independent study area of study, if approved by student's needs.

MASTER'S PROBLEM 24 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

MASTER'S THESIS 46 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

ADVANCED PRINCIPLES OF EDUCATIONAL ADMINISTRATION 2 credits
Study of organizations and strengths and weaknesses of various methods of administering them. Practical exercises which emphasize weaknesses of bureaucracies are often or insidious in educational institutions.

DECISION MAKING IN EDUCATIONAL ADMINISTRATION 3 credits
Decision making is portrayed as a central function of the educational administrator with a unit ed presentation of the theory, research and practice of decision making.

COLLECTIVE BARGAINING AND EMPLOYEE RELATIONS 2 credits
An overview of collective bargaining in education, and a comprehensive look at the mechanics and issues involved in the bargaining process and contract administration.

THE SUPERINTENDENCY 3 credits
An overview of the superintendent's role and an examination of the strategies for dealing with the major relational and functional aspects of the superintendent.

TOPICAL SEMINAR: EDUCATIONAL ADMINISTRATION 12 credits
(Independent study may be repeated for a total of six credits) Prerequisites: permission of instructor. Topical studies in selected areas of concern to students, practicing administrators in public, private educational institutions, organizations.

RESIDENCY SEMINAR 3 credits
Prerequisite: 691. Focus on recent research in administration and educational administration theory.

RESIDENCY SEMINAR 3 credits
Current administrative problems in educational institutions as perceived by student and practicing school executives. Emphasis on problem management, amelioration or solution. Field visits or resource persons invited to classroom.

ORGANIZATIONAL COMMUNICATIONS AND THE SCHOOL ADMINISTRATOR 3 credits
Fundamentals of interpersonal communication, application of these principles to roles of educational administrators. Skill development in written and spoken communication, with attention to nonverbal communications, simulation and role playing.

THE EDUCATIONAL ADMINISTRATOR AND PLANNED CHANGE 2 credits
Prerequisites: 691 and 704. Relationship between technological and social change and need for reorganization in education. The nature of change in education, theories, principles and techniques employed in planned educational change.

THEORIES OF EDUCATIONAL SUPERVISION 3 credits
Prerequisites: 691. Study of the complexity of supervision changes in education, with an emphasis on the structure for effective supervision.

PRACTICUM IN EDUCATIONAL ADMINISTRATION: URBAN SETTING 2 credits
Prerequisites: completion of three semesters of doctoral program coursework. Analysis of uniqueness of urban setting, e.g., multicultural and pluralistic urban populations. Stress on administrator's human relations skills.

POLITICS, POWER AND THE SCHOOL ADMINISTRATOR 3 credits
Impacts of formal and informal community power structures and influences on educational planning and decision making. Administrator as an influence on the power structure for educational benefit.

PRACTICUM: COMPETING AND COMPLEMENTARY SOCIAL SYSTEMS 3 credits
Designed to bring educational administrator into direct contact with individuals responsible for other community service delivery systems, e.g., city government. Methods of interagency cooperation to provide service.

INTERNSHIP IN EDUCATIONAL ADMINISTRATION 2 credits
May be repeated for a total of six credits. Work under a practicing administrator involving experience in one number of administrative tasks. Includes seminars and written work.

FIELD EXPERIENCE: THE SUPERINTENDENCY 2 credits
Prerequisite: field-based experience in central office of a district in which student performs assignments in administrative task areas.

FIELD EXPERIENCE IN SCHOOL PLANT PLANNING 2 credits
Prerequisites: permission of instructor. Selected field experiences. Emphasis on analysis of school enrollments, evaluation of school plants and financial aspects of plant planning.

INDEPENDENT STUDY 12 credits
(Independent study may be repeated for a total of six credits) Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

RESEARCH PROJECT IN SPECIAL AREAS 12 credits
Prerequisite: permission of advisor. Critical and in-depth study of specific problem in educational administration.

DOCTORAL DISSERTATION 50 credits
Prerequisite: permission of advisor. Specific research problem that requires student to apply research skills and techniques to the problem being studied.

SPECIAL EDUCATIONAL PROGRAMS

5800:

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.

WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE 1-2 credits
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

WORKSHOP IN READING 1-2 credits
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

WORKSHOP ON EXCEPTIONAL CHILDREN 1-2 credits
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

INTERNATIONAL SCHOOL STUDY 24 credits
On-the-spot study of education in foreign countries, usually by concentrating on the study of schools in one restricted geographical area.

ACCOUNTANCY

6200:

520 ADVANCED ACCOUNTING
Prerequisite: 621. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, nonprofit and governmental units, and other nonprofit institutions. 3 credits

530 TAXATION I
Prerequisite: 322 or 620. Federal tax law related to individuals, partnerships, and corporations. Mastery of taxation problems will not be possible for students in the Master of Taxation program. 3 credits

531 TAXATION II
Prerequisite: 430/530 or permission. Advanced aspects of individual taxation, federal tax law related to property transfers and retirement and family tax planning. 3 credits

540 AUDITING
Prerequisites: 621. Auditing standards and procedures used by independent auditors. Determining whether a firm has fairly represented its financial position. 3 credits

570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING
Prerequisites: 320 or 621. Theory and procedures involved in application of fund accounting, budgetary control, and accounting for various accounting systems to governmental units, educational, medical and other nonprofit institutions. 3 credits

580 ACCOUNTING PROBLEMS
Prerequisite: 322. Independent research on advanced accounting problems in specific area of interest. 3 credits

588 CPA PROBLEMS: AUDITING
Prerequisite: 440/640 or permission of instructor. Preparation for auditing section of CPA examination. Focusing on auditing principles, standards, and ethics encountered by independent auditor. 2 credits

598 CPA PROBLEMS: THEORY
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. 2 credits

590 SPECIAL TOPICS IN ACCOUNTING
Prerequisite: Permission of instructor. Opportunity to study special topics and current issues in accounting. May be repeated with a change of subject but not to exceed 6 credits. 1.5 credits

595 WORKSHOP IN ACCOUNTING
May be repeated. Prerequisite: permission of instructor. Group study of accounting under faculty guidance. May not be used to meet undergraduate or graduate accounting major requirements, but may be used for elective credit only with permission of instructor or department. 2 credits

601 FINANCIAL ACCOUNTING
Introduction course for students with no accounting background. Examines accounting principles as they relate to financial problems of firms. 3 credits

603 BUSINESS SYSTEMS WITH PROCESSING APPLICATIONS
Prerequisite: 631. Introduction to basic concepts in computer technology, systems development, and logical and physical design of information systems. 3 credits

616 ACCOUNTING MANAGEMENT AND CONTROL
Prerequisite: 621 or equivalent. Investigation of role of accounting as management tool in areas of production, marketing, internal control, and capital budgeting with focus on management planning. 3 credits

621 CORPORATE ACCOUNTING AND FINANCIAL REPORTING I
Prerequisite: 621. An examination of generally accepted accounting principles in theory and application, as well as financial statement preparation. 3 credits

622 CORPORATE ACCOUNTING AND FINANCIAL REPORTING II
Prerequisite: 621. An advanced examination of advanced topics in theory and practice, as well as financial statement preparation. 3 credits

627 SURVEY OF FEDERAL TAXATION
Prerequisite: 621 or equivalent. Introduction to federal taxation for students who have not yet completed more than one undergraduate or graduate tax course. Examines individual and business federal taxation. Completion of this course will not count towards fulfilling the requirements of the Master of Taxation degree. 3 credits

628 BASIC TAX RESEARCH
Prerequisites: completion of M.Tax foundation courses. Designed to develop basic research competence involving federal income, estate, and gift tax laws. 2 credits

631 CORPORATE TAXATION I
Prerequisite: completion of M.Tax foundation courses. Detailed examination of tax problems of corporations and their shareholders related to formation, distribution, reorganization, liquidation, and dissolution. 3 credits

632 TAXATION OF TRANSACTIONS IN PROPERTY
Prerequisite: completion of M.Tax foundation courses. Explores federal tax implications of gifts, exchanges, and other dispositions of property. 3 credits

633 ESTATE AND GIFT TAXATION
Prerequisite: completion of M.Tax foundation courses. An advanced examination of federal estate and gift tax laws and tax consequences of testamentary and inter vivos transfers. 3 credits

637 ADVANCED ACCOUNTING THEORY
Prerequisite: 318. Examination of accounting concepts and standards through critical analysis of articles on current trends in profession. Discussion and outside research stress. 3 credits

640 ADVANCED AUDITING
Prerequisite: 440/640. Conceptual foundations and current research on professional and internal auditing. Includes government regulation and litigation, statistics, computer systems as well as current and prospective developments in auditing. 3 credits

641 TAXATION OF PARTNERSHIPS AND S CORPORATIONS
Prerequisites: completion of M.Tax foundation courses. Examination of special provisions of the partnership and S corporation chapters of the Internal Revenue Code. 2 credits

642 CORPORATE TAXATION II
Prerequisite: 631. Continuation of 631. Designed to lead to the development of small to medium size business. Special emphasis on corporate reorganization. 3 credits

643 TAX ACCOUNTING
Prerequisite: completion of M.Tax foundation courses. Emphasis on current trends in profession. Discussion and outside research stress. 2 credits

645 ADVANCED INDIVIDUAL TAXATION
Prerequisite: 430/530. In-depth study of some of the more involved areas of individual income taxation. 3 credits

646 CONSOLIDATED TAX RETURNS
Prerequisite: completion of M.Tax foundation courses. Comprehensive study of tax provisions concerning use of consolidated tax returns. 2 credits

647 TAX PROFESSIONAL AND PRACTICE
Prerequisite: completion of M.Tax foundation courses. Comprehensive study of tax provisions concerning use of consolidated tax returns. 2 credits

648 STATE AND LOCAL TAXATION
Prerequisite: 631. Studies the federal income tax, sales tax, estate and gift tax, and other sources of state and local revenue. 2 credits

650 ESTATE PLANNING
Prerequisite: 631. Considers process of planning the estate with due regard for disposition of property, tax minimization, and legal requirements. 2 credits

651 UNITED STATES TAXATION AND INTERNATIONAL PROBLEMS
Prerequisites: completion of M.Tax foundation courses. Examination of domestic and foreign tax problems. 2 credits

652 TAX-EXEMPT ORGANIZATIONS
Prerequisite: completion of M.Tax foundation courses. Study of tax aspects of tax-exempt organizations, including nature of and limitations of its exemption. 2 credits

653 BUSINESS PLANNING
Prerequisite: 631. Studies cases depicting complex problems to permit student to integrate knowledge of taxation. 2 credits

654 INDEPENDENT STUDY IN TAXATION
Prerequisite: permission of instructor. Intensive study of particularly tax or limited number of topics not otherwise offered in curriculum. (May be repeated for a total of six credits.) 1.5 credits

655 ADVANCED INFORMATION SYSTEMS
Prerequisites: 603 or equivalent. Advanced study of data processing and related information systems. 3 credits

656 TAX PLANNING AND CONSTRUCTION
Prerequisites: 620 and 631. Study and construction of electronic data processing and tax spreadsheets. 3 credits

657 ADVANCED ACCOUNTING THEORY
Prerequisite: 620. Examination of accounting theory and practice from international perspective with emphasis on multinational business and government auditing and reporting standards. 3 credits

659 INTEGRATED MANAGEMENT AND CONTROL
Prerequisites: 620, 631, and 655. Study of information systems' role in auditing, tax planning, and financial statement preparation. 2 credits

660 NON-QUALIFIED EXECUTIVE COMPENSATION
Prerequisite: 631. Study of non-qualified executive compensation items are analyzed. The effects to both the recipients and plan entities are determined and discussed. 2 credits

661 ADVANCED TAX RESEARCH AND POLICY
Prerequisite: 622B and completion of four other tax courses in Phase II. Extensive research involving federal income, estate, trust, and gift tax laws as well as tax policy. 3 credits

664 RESEARCH AND QUANTITATIVE METHODS IN ACCOUNTING
Prerequisites: 620/810, 650/850 or equivalent. Survey of research techniques, statistical methods, and data bases with applications to accounting and business functional areas. 3 credits

670 COST CONCEPTS AND CONTROL
Prerequisites: 620 and 631. Focus on analysis and control of costs and their uses in decision making. Determination of cost data and decision emphasis. 3 credits

690 INTEGRAL ACCOUNTING
Prerequisite: 660. Examination of accounting theory and practice from international perspective with emphasis on multinational business. 3 credits

691 SEMINAR IN TAXATION
May be repeated for a total of six credits. (Prerequisites: completion of M.Tax foundation courses. Program of studies in the tax area of student's choosing, in which a written report is prepared. 1-3 credits

692 SELECTED TOPICS IN TAXATION
May be repeated for a total of six credits. (Prerequisites: completion of M.Tax foundation courses. Program of studies in the tax area of student's choosing, in which a written report is prepared. 1-3 credits

695 GRADUATE INTERNSHIP IN ACCOUNTING
Prerequisites: 621, 621, 610, and 655. The course provides an opportunity for graduate students to apply classroom instruction to practice problems in a professional working environment. 3 credits

697 INDEPENDENT STUDY IN ACCOUNTING
May be repeated for a total of six credits. (Prerequisites: completion of M.Tax foundation courses. Program of studies in the tax area of student's choosing, in which a written report is prepared. 1-3 credits

Courses of Instruction
FINANCE
6400:

591 WORKSHOP IN FINANCE
(May be repeated Group studies or special topics. May not be used to meet undergraduate or graduate major requirements in finance. May be used for elective credit with permission of instructor or department.) 3 credits

602 ADMINISTRATIVE FINANCE
Prerequisites: 620:600:602 or equivalent. 2 credits

623 LEGAL ASPECTS OF BUSINESS TRANSACTIONS
Not open to students with six credits of undergraduate business law. Advanced legal analysis of contracts, HEOC, director/relationship, business organizations, property, and government regulation. 3 credits

631 FINANCIAL MARKETS AND INSTITUTIONS
Prerequisites: 622 or equivalent. A study of various financial markets and financial institutions with an emphasis on the decision making processes within a rapidly changing, but regulated operating environment. 3 credits

634 MANAGEMENT OF DEPOSITORY FINANCIAL INSTITUTIONS
Prerequisites: 622 and 650:602. Policy determination, administrative decision making in banks, savings and loans using computer simulation games. 3 credits

645 INVESTMENT ANALYSIS
Prerequisite: 622 or equivalent. Study of the economic and market forces that influence security prices. Techniques of analysis used in evaluating limited income and equity securities. 3 credits

647 OPTIONS, FUTURES AND SPECULATIVE MARKETS
Prerequisites: 622 or equivalent. A study of the applications and practice of options, futures, and other speculative markets. 3 credits

649 PORTFOLIO MANAGEMENT
Prerequisites: 640 or permission of instructor. Advanced techniques used by sophisticated individuals and professionals in large portfolio management. 3 credits

650 ADMINISTERING COSTS AND PRICES
Prerequisite: 3250:600 or 650:602. Provides an understanding of managerial economics. Short and long-run decisions of firm analyzed. Analysis includes impact of costs and prices on business profitability. 3 credits

655 GOVERNMENT AND BUSINESS
Public policy with regard to business institutions and issues are examined from an economic, legal, ethical, political framework. 3 credits

656 FINANCIAL MANAGEMENT AND POLICY
Prerequisites: 622 and 650:602. Working capital management, capital budgeting, managerial decision processes, and the operating environment. 3 credits

657 MANAGEMENT OF FINANCIAL STRUCTURE
Prerequisite: 622 or equivalent. Emphasis on determination of volume and composition of sources of funds. Primary attention directed to cost of capital for specific sources of finance. 2 credits

660 CAPITAL BUDGETING
Prerequisite: 622 or equivalent. Emphasis on determination of volume and composition of sources of funds. Primarily attention directed to cost of capital for specific sources of finance. 2 credits

681 MULTINATIONAL CORPORATE FINANCE
Prerequisites: 622 or equivalent. Financial policies and practices of companies involved in multinational operations. Considerations of working capital and permanent assets, return on investment and capital budgeting for the global firm. 3 credits

690 SELECTED TOPICS IN FINANCE
(May be repeated for a total of six credits) Prerequisite: 622 or equivalent. Provides study of contemporary issues and areas not covered in current finance graduate courses. 2 credits

691 INTERNATIONAL MARKETS AND INVESTMENTS
Prerequisites: 622 and 650:602. Working capital management, capital budgeting, managerial decision processes, and the operating environment of international business. 3 credits

697 INDEPENDENT STUDY IN FINANCE
May be repeated for a total of six credits. Focus on special topics of study and research in finance on an independent basis. 3 credits

698 INDEPENDENT STUDY: BUSINESS LAW
May be repeated for a total of six credits. Focus on special topics of study and research in the legal aspects of business administration. 3 credits

MANAGEMENT
6500:

580 INTRODUCTION TO HEALTH-CARE MANAGEMENT
Prerequisites: upper-college or graduate standing and 301 or 650 equivalent. Examines the behavior and environment for entrepreneurship. Focuses on classic and contemporary entrepreneurship as well as the integration of theory, practice, and strategy. Case studies. Field projects. 3 credits

581 MANAGERIAL PROJECT
Prerequisites: 650:602. Student applies modern management principles, practices, theory to an actual problem in industry. 3 credits

582 HEALTH SERVICES OPERATIONS MANAGEMENT
Prerequisites: 580 or 650 or equivalent permission of instructor. Application of operations research techniques to health care management. 3 credits

585 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION
Prerequisite: permission of instructor. Special topics in health services administration (e.g., management focusing on historic and contemporary managerial organizational systems, policy/strategy issues related to health care organizations and health-care systems. Separate permission may be required to a maximum of six credits. For those registered for graduate credit, a major research paper is required. 3 credits

591 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR
Course examines management in health-care organizations. Concepts, methods and process, as well as human behavior in organizations. 3 credits

593 QUANTITATIVE DECISION MAKING
Prerequisite: Finite mathematics. Applies quantitative techniques to business decision-making. Topics covered include probability, hypothesis testing, simple and multiple regression and correlation analysis, analysis of variance, and non-parametric statistics. 3 credits

598 COMPUTER TECHNIQUES FOR MANAGEMENT
Introduction to the use of integrated spreadsheet software, database management software and the analysis and design of management information systems. 3 credits

600 MANAGEMENT INFORMATION SYSTEMS
Prerequisites: 602 or equivalent. An introduction to systems design, management information systems, data base management, their relationships to problem solving and the organization. 3 credits

611 DATA MANAGEMENT AND COMMUNICATION
Prerequisite: 602. The effective management of the data resources at the firm are examined as well as how data communications is changing the way businesses operate. 3 credits

615 SYSTEMS SIMULATION
Prerequisites: 601, 602. Manufacturing or service sector systems are analyzed modeled on a computer. Experimental design. Statistical significance of results. Model validation and verification. 3 credits

617 ANALYSIS AND DESIGN OF BUSINESS SYSTEMS
Prerequisite: 602. A hands-on treatment of the methods used to design different types of business management systems. 3 credits

619 MANAGEMENT DECISION SUPPORT AND EXPERT SYSTEMS
Prerequisites: 603:600. E23130:630. Examines decision support systems and the application of artificial intelligence based systems, in today's business environment. 3 credits

624 ADVANCED MANAGEMENT INFORMATION SYSTEMS
Prerequisite: 619. A case-oriented course which examines the problems of managing the Corporate Information Systems activity as judged by users, general management and IS management. 3 credits

626 FUNDAMENTALS OF HUMAN RESOURCE ADMINISTRATION
Prerequisite: 602. A broad survey of the fundamental principles, research findings and practices related to the acquisition, development, maintenance and effective utilization of a business organization's human resources. 3 credits

628 PRODUCTIVITY AND QUALITY OF WORKPLACE ISSUES
Prerequisite: 600 or equivalent. A comprehensive study of innovations in organizations designed to improve human satisfaction and productivity through changes in management. 3 credits

631 ORGANIZATIONAL BEHAVIOR
Prerequisite: 600 or equivalent. Study of factors which influence human behavior in business organizations. Emphasis on theories of individual and group behavior, motivation, leadership and communication in organizations. 3 credits

633 ORGANIZATIONAL THEORY
Prerequisite: 600. Examines the structure, design and overall effectiveness of a business organization from a micro perspective. 3 credits

635 INDUSTRIAL RELATIONS
Prerequisites: 600. Study of rights and duties of management in dealing with labor and economic consequences of union and management policies and practices. 3 credits

637 COMPENSATION ADMINISTRATION
Prerequisite: 600. A comprehensive approach toward the identification and resolution of pay and benefits problems facing business organizations in today's complex business environment. 3 credits

646 MANAGEMENT OF INTERNATIONAL OPERATIONS
Prerequisite: 600 or equivalent. Deals with international environment of international business, parameters of international sales systems which hold the system together and which individual business people cannot materialize alter. 3 credits

647 THE LEADERSHIP ROLE IN ORGANIZATIONS
Prerequisite: 646 and 648. Analysis and leadership theory and thought. Identification of leaders in both formal and informal organizations. Training and equipping methods of leaders evaluation. Individual and small group field study assignments. 3 credits

651 STRATEGIC HUMAN RESOURCES
Prerequisites: 600 or 650 and 641. The formulation, design and implementation of strategic human resource practices and systems for business organizations. Emphasis on competitive cost advantages and productivity gains. 3 credits

654 EMPLOYMENT REGULATION
Prerequisite: 600 or equivalent. A broad overview of the federal legislation regulating the business firms human resource management function. 3 credits

655 APPLIED OPERATIONS RESEARCH
Prerequisites: 602 or equivalent. Survey of basic techniques of operations research. Stresses applications functional units of business. 3 credits

656 DATA ANALYSIS FOR MANAGEMENT
Prerequisite: 602 or equivalent. Course proceeds from problem recognition and development of effective data collection plans to quantitative data analysis and presentation of statistical results and implications. 3 credits

660 APPLIED INTEGRAL STATISTICS
Prerequisites: 601 or equivalent. Applications of multiple regression including determining significant independent variable, correlation models, analysis of variance models, comparison models and multi-factor models. Experimental designs including randomized block and Latin square designs. 3 credits
670 OPERATIONS MANAGEMENT 3 credits
Prerequisite: 660, 661, or equivalent. An overview of the strategic, tactical, and operational issues directly related to the creation of goods and services.

671 ADVANCED OPERATIONS RESEARCH 3 credits
Prerequisite: 660. Designed to present in more depth and breadth certain topics surveyed in 660, with emphasis on application of these techniques to student's own business situations.

672 QUALITY AND PRODUCTIVITY TECHNIQUES 2 credits
Prerequisite: 601. Introduction to techniques for improving productivity and quality, including statistical process control (SPC), market requirements planning (MRP), just-in-time (JIT), inventory control, and management of the program.

673 ADVANCED QUALITY AND PRODUCTIVITY TECHNIQUES 3 credits
Prerequisite: 672. Survey of various tools and techniques designed to enhance overall productivity, including methods to improve efficiency and reduce waste. Emphasis on the implementation of quality control systems.

674 MATERIALS MANAGEMENT 3 credits
Prerequisite: 601. Surveys current issues and opportunities for improvement in the area of materials management, with emphasis on cost reduction in in-house manufacturing and outsourcing.

675 MANAGEMENT OF PRODUCTION AND OPERATIONS 3 credits
Prerequisite: 601. Survey of various tools and techniques designed to enhance overall productivity, including methods to improve efficiency and reduce waste. Emphasis on the implementation of quality control systems.

678 PROJECT MANAGEMENT 3 credits
Prerequisite: 601. Provides knowledge of tools and methods available to project managers, including computerization of network models to aid the planning and control functions.

683 HEALTH SERVICES SYSTEMS MANAGEMENT 3 credits
Prerequisite: 660 or 661, or equivalent. Prerequisite: 660 or 661. Design of health services organizations, comparative delivery systems, the role of health care providers and government in health care delivery. Survey of research and major research paper required.

686 HEALTH SERVICES RESEARCH PROJECT 2 credits
Prerequisite: 660 or permission of instructor. An independent study project utilizing advanced methodology applied to research problems of health services organizations.

687 GRADUATE SEMINAR IN HEALTH SERVICES POLICY AND ADMINISTRATION 3 credits
Prerequisite: 660, or permission of instructor. Advanced seminar in health services policy and administration. Includes examination of micro- and macro-organizational issues. Major paper required.

689 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION 3 credits
May not be repeated for more than three credits. Prerequisite: 660 or 661, or equivalent. Prerequisite: 660 or 661. Independent study and research of a special topic of interest to health services administration. May be repeated for a total of six credits.

690 SELECTED TOPICS IN MANAGEMENT 3 credits
May be repeated for a total of six credits. Prerequisite: 660 or 661. Topics in current management theory and practice. May be repeated for a total of six credits.

695 BUSINESS STRATEGY AND POLICY: DOMESTIC AND INTERNATIONAL 3 credits
Prerequisite: The final course of the MBA program. A case-oriented course focusing on the integration of theoretical and practical problems in the field of strategic management.

696 SPECIAL TOPICS IN PROFESSIONAL DEVELOPMENT 1 credit
Special topics and current issues in the MBA program. May be repeated for a total of six credits.

698 COLLOQUIUM IN BUSINESS 1 credit
Prerequisite: Permission of instructor. Topics of special interest to business administration. May be repeated for a total of six credits.

INTERNATIONAL BUSINESS 6800:

680 INTERNATIONAL BUSINESS ENVIRONMENTS 3 credits
Prerequisite: 660. An introductory course designed to develop a broad understanding of global business environments.

685 INTERNATIONAL MARKETING POLICIES 3 credits
Prerequisite: 680. An advanced course designed to develop an in-depth understanding of international marketing strategies and tactics within complex and changing international business environments.

690 SEMINAR IN INTERNATIONAL BUSINESS 2 credits
Prerequisite: 680. Seminar is designed to develop an in-depth understanding of international marketing strategies and tactics within complex and changing international business environments.

697 INDEPENDENT STUDY IN INTERNATIONAL BUSINESS 1 credit
May be repeated for a total of six credits. Prerequisites: Graduate standing and permission of instructor. Focus on special topics of study and research in international business on an independent basis.

660 CONSUMER BEHAVIOR 3 credits
Prerequisite: 660. Examines the marketing behavior of individuals, households, and organizations. Focus is placed on integrating theoretical models with managerial applications.

665 MARKETING COMMUNICATIONS 3 credits
Prerequisite: 660. The role of marketing communication tools is examined individually and in the context of planning, developing, and implementing a systematic and integrated communications program.

670 COMPETITIVE BUSINESS STRATEGY 3 credits
Prerequisite: 660. An advanced course designed to develop an in-depth understanding of competitive business strategy from an industry perspective. The course presents a framework which can be used to understand and develop competitive strategies.

688 APPLICATIONS OF MARKETING THEORY 3 credits
Prerequisite: 660. Examines marketing theories and their applications to business problemsolving and decision-making. Selected readings and field projects are used to enhance the student's analytical skills.

697 INDEPENDENT STUDY IN MARKETING 1 credit
May be repeated for a total of six credits. Focus is placed on integrating theoretical models with managerial applications.

PROFESSIONAL 6700:

690 PROFESSIONAL RESPONSIBILITY 1 credit
Prerequisite: None. A graduate seminar in the professional responsibilities of business men and women to make them and the business organization in which they work more responsible decision makers.

692 INTERNATIONAL BUSINESS 1 credit
Prerequisite: None. A graduate seminar in the professional responsibilities of business men and women to make them and the business organization in which they work more responsible decision makers.

695 INTERNATIONAL BUSINESS 1 credit
Prerequisite: None. A graduate seminar in the professional responsibilities of business men and women to make them and the business organization in which they work more responsible decision makers.

699 SPECIAL TOPICS IN PROFESSIONAL DEVELOPMENT 1 credit
Special topics and current issues in the MBA program. May be repeated for a total of six credits.

898 COLLOQUIUM IN BUSINESS 1 credit
Prerequisite: Permission of instructor. Topics of special interest to business administration. May be repeated for a total of six credits.

INTERNATIONAL BUSINESS 6800:

680 INTERNATIONAL BUSINESS ENVIRONMENTS 3 credits
Prerequisite: 660. An introductory course designed to develop a broad understanding of global business environments.

685 INTERNATIONAL MARKETING POLICIES 3 credits
Prerequisite: 680. An advanced course designed to develop an in-depth understanding of international marketing strategies and tactics within complex and changing international business environments.

690 SEMINAR IN INTERNATIONAL BUSINESS 2 credits
Prerequisite: 680. Seminar is designed to develop an in-depth understanding of international marketing strategies and tactics within complex and changing international business environments.

697 INDEPENDENT STUDY IN INTERNATIONAL BUSINESS 1 credit
May be repeated for a total of six credits. Prerequisites: Graduate standing and permission of instructor. Focus on special topics of study and research in international business on an independent basis.
501 SPECIAL TOPICS IN HISTORY OF ART 3 credits
Pre-requisite: 101 or permission of instructor. Consideration of development of art in the United States from earliest evidences to approximately World War II.

7100:

501 ART IN THE UNITED STATES BEFORE WORLD WAR II 3 credits
Pre-requisite: 101 or permission of instructor. Consideration of development of art in the United States from earliest evidences to approximately World War II.

501 SPECIAL TOPICS IN HISTORY OF ART 3 credits
Pre-requisite: 201 or permission. A lecture course focusing on a particular movement, period, artist, or medium. (May be repeated when a different subject or level of investigation is selected.)

505 HISTORY OF ART SYMPOSIUM 1-2 credits
(May be repeated for credit when a different subject is indicated. Pre-requisite: one art history course beyond 201 or permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem or medium. (May be repeated when a different subject or level of investigation is selected.)

509 WORKSHOP IN ART 1-4 credits
(May be repeated for credit when a different subject or level of investigation is indicated. 400 to maximum of eight credits; 590 to maximum of 12 credits) Pre-requisite: advanced standing in art or permission of instructor. Group investigation of a particular phase of art not offered by regular courses in curriculum.

511 ARCHITECTURAL PRESENTATIONS I 3 credits
Pre-requisite: Junior level or permission. Studio practice in architectural design and presentation methods in residential and commercial interiors

512 ARCHITECTURAL PRESENTATIONS II 3 credits
Pre-requisites: 486/531, 491/591. Continuation of concepts covered in Architectural Presentations I, with additional work in color rendering techniques. Emphasis on a variety of rendering mediums.

515 INDEPENDENT STUDIES 1-12 credits
(May be repeated.) Pre-requisites: for art majors: advanced standing in area chosen and permission of instructor. Pre-requisites for non-art majors: permission of instructor. Investigation in depth of aesthetic and historical centered around limited topic(s), such as specific time period, history of specific techniques, a single artist or movement in art history. No more than 12 credits will be counted toward major.

516 SPECIAL PROBLEMS IN HISTORY OF ART 1-12 credits
(May be repeated for credit when a different subject or level of investigation is indicated. Pre-requisite: 14 credits in art history and permission of instructor. Individual research and analysis. Emphasis on a variety of rendering mediums.

517 HOME ECONOMICS AND FAMILY ECOLOGY 7400:

501 FAMILIAL PATTERNS IN THE ECONOMICALLY DEPRESSED HOME 2 credits
Study of the family life cycle and lifestyle patterns among economically deprived with emphasis on impact of socio-economic and psychological deprivation on family members throughout family life span.

503 ADVANCED FOOD PREPARATION 3 credits
Pre-requisite: 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.

504 ADOLESCENCE IN THE FAMILY CONTEXT 3 credits
Pre-requisites: 201, 205 or permission of instructor. The influences of adolescent behavior on the family and the influence of the family environment on adolescent development.

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. Credit, savings, problems and computer analysis.

518 HISTORY OF INTERIOR DESIGN I 4 credits
The study of furnishings, interiors, and architecture from antiquity through the eighteenth century, with emphasis on the socio-cultural influences shaping their development.

519 HISTORY OF INTERIOR DESIGN II 4 credits
The study of nineteenth and twentieth-century furnishings and interiors, with emphasis on the socio-cultural influences shaping their development.

520 EXPERIMENTAL FOODS 3 credits
Pre-requisites: 246 and 350/450. Theory and methods used in the experimental study of foods. Analytical procedures in sensory and instrumental evaluation of food quality. Individual research emphasized. Lecture/Laboratory

523 PROFESSIONAL IMAGE ANALYSIS 3 credits
Pre-requisite: Senior status. Comparison of theories associated with projecting and maximizing an appropriate professional image consistent with career goals and objectives.

524 NUTRITION IN THE LlFE CYCLE 3 credits
Pre-requisite: 316. Study of the physiological basis for nutritional requirements, intermediate factors which affect growth, development, maturation and nutritional status from conception through the elderly years.

525 ADVANCED TEXTILES 3 credits
Pre-requisite: 121. Evaluation of physical, aesthetic, comfort, care and durability properties of textile products and testing procedures to determine suitability for desired ends.

527 TEXTILES AND APPLIANCE INDUSTRY 3 credits
Examines the global structure and scope of the textile and apparel industry emphasizing an economic perspective.

532 INTERIOR TEXTILES AND PRODUCT ANALYSIS 3 credits
Pre-requisite: 156. Examination, evaluation, and analysis of products for interiors with emphasis on trade classifications, selection criteria, economic factors, and legislative considerations.

533 RESIDENTIAL DESIGN 3 credits
Pre-requisites: 158, 258, 333, 344, 700-A. A comprehensive study of residential design with emphasis on conceptual, analytical, and graphic skills.

534 COMMERCIAL DESIGN 3 credits
Pre-requisites: 158, 258, 330, 344, 700-A. A comprehensive study of non-residential design with emphasis on conceptual, analytical, and graphic skills.

535 PRINCIPLES AND PRACTICES OF INTERIOR DESIGN 3 credits
Pre-requisites: 158 and 143 and 421. Study of the business aspect of interior design: business procedures, manufacturing of home furnishings and principles and psychology of marketing home furnishings.

536 TEXTILE CONSERVATION 3 credits
Pre-requisites: 121, 122, 137. Principles and theories of textile conservation with emphasis on procedures for collectors and small historical agencies.

537 HISTORIC COSTUME TO 1800 2 credits
Study of costume and textiles from antiquity through the eighteenth century, with emphasis on socio-cultural influences.

538 HISTORY OF FASHION SINCE 1780 3 credits
Pre-requisite: 121. Study of nineteenth and twentieth-century Western fashions, textiles and designers with emphasis on socio-cultural influences.

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.

542 HUMAN SEXUALITY 3 credits
Pre-requisite: 201 or permission of instructor. Introduction to problems and values. Emphasis is on knowledge of values in intimate relationships, the diverse dimensions of sexual responsibility.

543 PUBLIC POLICY AND AMERICAN FAMILIES 3 credits
How legislation in such areas as housing, clothing, consumer affairs, family formation and dissolution, food conservation, child development and health care affects the family in some cases, determines the nature, structure and quality of the family as a social institution.

544 CULTURE, ETHNICITY AND THE FAMILY 3 credits
Study of the role of culture and ethnicity in adaptation of the family system to environment. Primarily considered in the American context.

545 BEFORE AND AFTER SCHOOL CHILD CARE 3 credits
Study of the development, implementation and evaluation of school-age childcare programs for before and after school and vacation periods.

548 FLAT PATTERN DESIGN 3 credits
Pre-requisite: 121 or equivalent. Theory and experience in clothing design using flat pattern techniques.

549 CHILD IN THE HOSPITAL 4 credits
Pre-requisite: 265. Comparative course or permission of instructor. Seminar dealing with special needs and problems of hospitalized child and family. Literature related to effects, separations, illness, stress and hospitalization. Examination of strategies for coping.

552 PRACTICUM IN SOCIAL SERVICE WORK 3 credits
Pre-requisites: 461(561), 562(562), and 564(564). When registered, student will meet cooperatively with another participating student in an agency for a comparable course or comparable activities.

553 PRACTICUM IN COMMUNITY ORGANIZATION 3 credits
Pre-requisites: 461(561), 501, and 504. Development, implementation and evaluation of departmental procedures.

554 PRACTICUM IN PUBLIC POLICY 3 credits

556 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.

558 MANAGEMENT OF THE FUNDING AGENCY 3 credits
Pre-requisite: 121 or equivalent. Theory and experience in dealing with funding agencies.

559 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.

561 CASE MANAGEMENT FOR CHILDREN AND FAMILIES I 3 credits
Provides an overview of Case Management basics in a multi-system collaborative context including roles, values, principles, state and service systems, and service coordination.

562 CASE MANAGEMENT FOR CHILDREN AND FAMILIES II 3 credits
Pre-requisite: 461(561). Provides in-depth exploration of Case Management principles and practice. Emphasis on process and function, assessment, cross-system service planning and coordination, advocacy, and cultural values.

566 PRACTICUM IN CROSSES SYSTEMS CASE MANAGEMENT FOR CHILDREN AND FAMILIES 3 credits
Pre-requisites: 461(561), 501, and 504. When registered, student will meet cooperatively with another participating student in an agency for a comparable course or comparable activities.

567 THE FOOD INDUSTRY: ANALYSIS AND FIELD STUDY 3 credits
Pre-requisite: 245 or permission. Role of technology in extending the food supply, chemical, physical and biological effects of processing and storage, on site horticulture of processing plants.

567 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.

568 ANALYSIS OF FOOD 3 credits
Pre-requisite: 252. Study of the general chemistry and principles of chemistry in the theory and practice of food analysis by classical and modern chemical and instrumental methods. Prerequisites emphasized by experimental work and laboratory.

569 DEVELOPMENTS IN FOOD SCIENCE 3 credits
Pre-requisite: 244. Advanced study of the chemistry of the function of food components, affecting quality and acceptability of foods. Critical examination of current basic and applied research emphasis.

570 COMMUNITY NUTRITION I: LECTURE 3 credits
Corequisite: 487 for CP student only. Sociocultural aspects of community assessment, program implementation and evaluation, and rationales for nutrition services.

571 COMMUNITY NUTRITION I: LABORATORY 1 credit (credit/noncredit credit)
Pre-requisite: CP Students only. Corequisite: 487. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutrition care.

572 COMMUNITY NUTRITION II: LECTURE 3 credits
Pre-requisites: 480/480. (481/481) for CP student. Corequisite: 480/480. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutrition care.

573 COMMUNITY NUTRITION II: LABORATORY. 1 credit (credit/noncredit credit)
Pre-requisite: CP Students only. (481/481) Corequisite: 480/480. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutrition care.
584 ORIENTATION TO THE HOSPITAL SETTING
2 credits
Prerequisite: 255, comparable course or permission of instructor. Focuses on holistic health care in a major hospital setting; includes administrative and procedural functions of the health care roles played by various hospital personnel (especially knowledge of medical terminology, common diseases, illnesses, and endergones).

585 SEMINAR IN HOME ECONOMICS
1.3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.

587 PRACTICUM IN DIETETICS
1 credit
Prerequisites: 155, 220/225, 350/130 or 213 or permission of instructor. In-depth study of energy metabolism and utilization before, during, and after exercise. Factors affecting nutrient intake and performance of different athletic populations are emphasized.

588 PRACTICUM IN DIETETICS
1 credit
Prerequisite: approval of advisor/instructor. Practical experience in application of the principles of home economics.

589 PROFESSIONAL PREPARATION FOR DIETETICS
1 credit
Prerequisites: open to those dietetics students in the Didactic Program or Graduate program who plan to apply for Dietetics internship. Historical aspects of dietetics and where the session is taking place. Specialty areas of dietetics practice are explored. Students prepare the application for dietetic internship.

590 WORKSHOP IN HOME ECONOMICS AND FAMILY ECODY
1.3 credits
Prerequisite: at least junior standing. Investigation on current issue of topic in selected areas of home economics and family ecology. May be off-campus study tour or an on-campus full-time group meeting.

591.23 WORKSHOP IN HOME ECONOMICS AND FAMILY ECODY
1.2 credits
Prerequisite: Juniors standing. Current issues and topics in selected areas of home economics and family ecology.

594 PRACTICUM IN PARENT AND FAMILY EDUCATION
3 credits
Prerequisites: 556, 620. Provides on-site opportunities to apply parent and family education skills. Includes a review of strategies, ethical considerations, and supervision by the site director.

596 PARENT EDUCATION
3 credits
Prerequisite: 255, comparable course, or permission. Practical application that revolves around an analysis of altering techniques with major emphasis on the evaluation of parent education programs.

601 FAMILY IN TRANSITION
2 credits
Overviews family in historical perspective. Effects of social change upon family and emerging relational patterns. Review of theory, research, educational and social strategies.

602 FAMILY IN LIFESPAN PERSPECTIVE
3 credits
Study of the individual and family development across the life span. Emphasis on adjustment patterns and interpersonal competence. Implications for education, theory, research and social policy.

603 FAMILY RELATIONSHIPS IN MIDDLE AND LATER YEARS
3 credits
Study of family patterns and problems during middle and later years of life with emphasis on psychological and biological changes and economic and social adequacy. Review of trends in family therapy.

604 ORIENTATION TO GRADUATE STUDIES IN HOME ECONOMICS AND FAMILY ECODY
1 credit
Introduction to the concepts and processes necessary for graduate study in the interdisciplinary field of home economics and family ecology.

605 DEVELOPMENTAL PARENT-CHILD INTERACTIONS
3 credits
Prerequisite: 255, or equivalent, or permission. Study of reciprocal interactions formed between parent and child from birth to adulthood. Consideration of social-cultural studies, historical and societal influences and varying family characteristics and structures.

606 FAMILY DYNAMICS
3 credits
Developmental aspects of techniques in home economics programs utilizing role theory, exchange theory, and systems theory in an understood study of the family across the life cycle.

610 CHILD DEVELOPMENT THEORES
3 credits
A comparative study of developmental theories of the child within the family context. Application of theoretical knowledge to child development in the family will be emphasized.

615 INFANT AND YOUNG CHILD NUTRITION
2 credits
Emphasizes current research trends in physiology of infant and young child in relation to nutritional requirements and feeding practices.

624 ADVANCED HUMAN NUTRITION I
3 credits
Prerequisites: undergraduate study in nutrition and food biochemistry. In-depth study of the human nutrition emphasizing metabolism, physiologic functions, and interrelations of carbohydrates, protein, lipids and the determinants of human energy requirements.

625 ADVANCED HUMAN NUTRITION II
3 credits
Prerequisites: EDCU 202 or equivalent study in depth of human nutrition with emphasis in the utilization, physiological functions and interrelations of vitamins and minerals.

631 PROBLEMS IN DESIGN
1.3 credits
May be repeated but no more than 6 credits can be applied by faculty advisor. Individual solution of a specific design problem within the student’s area of interest, textiles and interior specialization.

632 ADVANCED FOOD THEORY AND APPLICATIONS
3 credits
Prerequisite: 420/425 or permission of instructor. Advanced study of the chemistry and physiology of food components, assessing the characteristics of foods. Critical evaluation of current basic and applied research emphases.

644 MATERIAL CULTURE STUDIES
3 credits
Topics include history, cultural and cultural historical perspective.

652 THEORIES OF FASHION
1.3 credits
In-depth study of the theories underlying fashion and evaluation of current research related to the study of fashion.

640 NUTRITION IN DIMINISHED HEALTH
2 credits
Prerequisite: Permission. An examination of concepts relating to nutrition and health status, with emphasis on abnormal physiological and debilitating conditions throughout the life cycle. Emphasis on current literature.

651 FAMILY AND CONSUMER LAW
3 credits
Study of laws which control and protect individuals within family. Emphasis on current trends, legal rulings. Course taught by attorney.

652 PROFESSIONAL PRESENTATION IN HOME ECONOMICS
3 credits
Development of effective home economics presentations. Emphasis on content, format, organization, preparation, methodology, public relations, and ethics.

660 PROGRAMMING FOR CHILD-CARE CENTERS
3 credits
Prerequisite: ability to interpret and program development for child-care centers. Examination of current programs available for preschool children. Emphasis on literature, analysis, application, evaluation of methods.

665 DEVELOPMENT IN INFANCY AND EARLY CHILDHOOD
2 credits
Analysis of research and theoretical framework regarding infant and child development from conception through age five. Implications for guidance and education.

677 SOCIAL PSYCHOLOGY OF DRESS AND THE NEAR ENVIRONMENT
2 credits
Study of dress and the near environment as they relate to human behavior at the micro and macro level.

685 HISTORICAL AND CONCEPTUAL BASES OF HOME ECONOMICS AND FAMILY ECODY
3 credits
History of the field of home economics and family ecology with emphasis on both the leaders and the conceptual bases of the field.

686 RESEARCH METHODS IN HOME ECONOMICS AND FAMILY ECODY
3 credits
Study of research methods in home economics and family ecology including research methods emphasizing concept and theory development, policy and evaluation of ethical considerations.

688 PRACTICUM IN HOME ECONOMICS AND FAMILY ECODY
3 credits
Internship for advanced students in home economics and family ecology. Minimum of 150 hours of supervised experience in an approved community setting to acquire skills related to area of specialization.

690 FASHION POLITICS AND PEDAGOGY: ORGAN
1 credit
Prerequisite: permission of advisor. Supervised reading and research related to approved thesis topic. May be repeated once.

691 MASTER’S PROJECT
6 credits
Prerequisite: permission of advisor. The development, implementation and evaluation of a community based supervised project which makes a significant contribution to the field and may lead to publication.

695 GRADUATE INTERNSHIP
5 credits
Prerequisite: permission of advisor. A minimum of 400 hours of supervised practical experience in an approved field setting.

696 INDIVIDUAL INVESTIGATION IN HOME ECONOMICS AND FAMILY ECODY
1.3 credits
Prerequisite: permission of advisor. Individual study and analysis of a specific topic in social and economic development of individuals or specialization in area of interest for a faculty advisor.

697 INDIVIDUAL INVESTIGATION IN FAMILY DEVELOPMENT
1.3 credits
Prerequisite: permission of graduate advisor and individual project and understanding of specific topic in area of student’s interest and design under direction of faculty advisor.

698 INDIVIDUAL INVESTIGATION IN CHILD DEVELOPMENT
1.3 credits
Prerequisite: permission of graduate advisor and individual project and understanding of specific topic in area of student’s interest and design under direction of faculty advisor.

699 MASTER’S THESIS
5 credits
Prerequisite of advisor. Supervised research in a specialized area of home economics and family ecology which makes a contribution to the field and may lead to publication.

MUSIC 7500:

526 GRADUATE MUSIC THEORY REVIEW
2 credits
Prerequisite: Undergraduate music theory equivalent to four semesters. Review of basic music theory concepts. Coverage includes the musical harmonic vocabulary of the 18th and 19th centuries.

527 GRADUATE HISTORY REVIEW
2 credits
Prerequisite: Undergraduate music history equivalent to four semesters. Review of basic music history concepts. Coverage extends from the Baroque to the present. Both written and oral examinations will be required.

532 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS
2 credits
In-depth study and graduate percussion students in techniques of percussion education. Emphasis on research, literature, performance, and techniques from elementary through secondary levels.

551 INTRODUCTION TO MUSICOLOGY
2 credits

553 MUSIC SOFTWARE SURVEY AND USE
2 credits
Prerequisite: 119 or permission of instructor. A survey and evaluation of available software in the various forms of musical expression. Students will design a course suitable for submission to a programmer.

555 ADVANCED CONDUCTING (INSTRUMENTAL)
2 credits
Prerequisite: 751. Advanced development of conducting skills for instrumental ensembles. One hour lab required.

556 ADVANCED CONDUCTING (CHORAL)
2 credits
Prerequisite: 381 or equivalent. Conduction techniques for choral ensembles, including leading, coloration, tone, overall dynamics, artistic training, and interpretation. One hour lab required.

562 REPERTOE AND PEDAGOGY ORGAN
3 credits
Prerequisite: permission of instructor. Survey of organ literature of all levels and styles, and of methods of teaching organ. Pedagogical principles of literature.

563 REPERTOE AND PEDAGOGY, STRING INSTRUMENTS
3 credits
Prerequisite: permission of instructor. Study in depth of the four bowed string instruments, violin family and cello. Historical and close relationship. Study of弓 and bow techniques in relation to violin family and cello. Methodology of tuning and tuning procedures. One hour lab required.

566 MUSICIANSHIP ARRANGING
2 credits
Prerequisite: permission of instructor. A systematic analysis of prevailing schools of guitar pedagogy. Sound production of music, sound technique, and understanding of musical forms.

568 GUITAR PEDAGOGY
2 credits
Prerequisite: permission of instructor. A systematic analysis of prevailing schools of guitar pedagogy. Sound production of music, sound technique, and understanding of musical forms.
PRACTICES AND SEMINAR IN MUSIC OF INSTRUCTIONAL PROGRAMMING IN MUSIC FOUNDATIONS PEDAGOGY

Prerequisite: permission of instructor. Graduate student must acquire concepts and approaches normal to study of music education.

MUSICAL THEORIES AND APPLICATIONS

Prerequisite: Permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from the 20th Century to the present. Emphasis on musical examples of a variety of types and styles.

EDUCATION OF THE INSTRUCTOR

Prerequisite: Permission of instructor. Methodology of theory teaching and practice related to the completion of the master's thesis in music education.

Seminars in Music Education

May be repeated for a total of 6 credits. Intensive examination of special topics in the field of music education.

ADVANCED PROBLEMS IN MUSIC

May be repeated for a total of 8 credits. Prerequisite: permission of graduate advisor. Studies or research projects related to problems in music.

GRADUATE RECITAL

Prerequisite: Permission of graduate advisor. Recital prepared and presented in a requirement for the graduate degree. A verbatim account of the recital is to be written in conjunction with the recital, and 600 for the additional credit.

MASTER'S THESIS

Prerequisite: Permission of graduate advisor. Research related to the completion of the master's thesis or recital document written in conjunction with the graduate recital, depending on the student's degree option.

MUSICAL ORGANIZATIONS

521 GUITAR CHAMBER MUSIC

1 credit

Applicable to all upper class instrumentalists and vocalists. Prerequisite: must have taken Guitar Ensemble, 1967. Study, coaching, and performance of major works for guitar with other instruments or voices. Major conducted ensemble.

AKRON SYMPHONY CHOIR

1 credit

Open to University and community. Membership by audition. Prospective members should contact School of Music two weeks before semester begins. Performs with Akron Symphony Orchestra.

UNIVERSITY SYMPHONY ORCHESTRA

1 credit

Member by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special university appearances. Major conducted ensemble.

SYMPHONIC BAND

1 credit

Member by audition. The University Symphonic Band is the most select band at the University and performs the most demanding and challenging music available.

VOCAL CHAMBER ENSEMBLE

1 credit

Member by audition. Open to those interested in applied voice study. Coaching and rehearsal of ensembles for concerts and competitions. For advanced voice majors.

BRASS ENSEMBLE

1 credit

Member by audition. Study and performance of literature for brass ensemble from all periods of music history. Frequent public concerts. For advanced brass players.

STRING ENSEMBLE

1 credit

Member by audition. In-depth study and performance of chamber music literature with special emphasis on string quartet and piano trio.

OPERA WORKSHOP

1 credit

Member 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.

PERCUSSION ENSEMBLE

1 credit

Member by audition. Study and performance of literature for various percussion groups. develops skill in ensemble performance.

WOODWIND ENSEMBLE

1 credit

Member by audition. Study and performance of woodwind literature from all periods and various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.

CHAMBER ORCHESTRA

1 credit

Member by audition. Organization designed to study for performance the substantial repertoire for small orchestra. Open to a student of advanced ability.

KEYBOARD ENSEMBLE

1 credit

Includes three hours of accompanying. Keyboard major required to enroll for at least three years. Music education major may substitute another musical organization for one year.

JAZZ ENSEMBLE

1 credit

Member by audition. Provides experience in jazz ensemble performance. A student is assumed to have knowledge of judgments of music and some experience in jazz ensemble performance.

COLLEGIUM MUSICUM

1 credit

Prerequisite: permission of instructor. A musical ensemble that performs music written before 1750 on copies of authentic instruments.

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.
APPLIED MUSIC

7520:

521 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 correlate approximately to class standing (100 for freshman, 200 for sophomore, etc.). A student may progress up one level successfully completing an applied music course usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply to music degree programs, no with limit exists for the 400 level.

521 PERSUASION
522 CLASSICAL GUITAR
523 HARP
524 VOICE
525 PIANO
526 ORGAN
527 VIOLIN
529 VIOLA
529 CELLO
530 STRING BASS
531 TRUMPET OR CORNET
532 FRENCH HORN
533 TROMBONE
534 BASSOON
535 Tuba
536 FLUTE OR PICCOLO
537 OBOE OR ENGLISH HORN
538 CLARINET OR BASS CLARINET
539 BASSOON OR CONTRABASSOON
540 SAXOPHONE
541 HARP/CHORDS
542 PRIVATE LESSONS IN MUSIC COMPOSITION 2 or 4 credits each

(May be repeated. Prerequisites: 7500.259 and permission of instructor. 7500.462 recommended. Private instruction is composition. Primary for student whose major is theory-composition. 4 credits)

543 JAZZ VOCAL STYLES

561-681 GRADUATE STUDY IN APPLIED MUSIC 2 or 4 credits each

(May be repeated. Prerequisites: undergraduate degree in music, graduate standing and/or permission of instructor determined through audition.

562 PERSUASION
563 CLASSICAL GUITAR
564 HARP
565 VOICE
566 PIANO
567 ORGAN
562 VIOLIN
569 CELLO
570 STRING BASS
571 TRUMPET OR CORNET

562 FRENCH HORN
563 TROMBONE
564 BASSOON
565 Tuba
566 FLUTE OR PICCOLO
567 OBOE OR ENGLISH HORN
568 CLARINET OR BASS CLARINET
569 BASSOON OR CONTRABASSOON
570 SAXOPHONE
571 HARP/CHORDS
572 APPLIED COMPOSITION
573 JAZZ PERCUSSION
574 JAZZ GUITAR 2 credits

(May be repeated. Prerequisites: undergraduate degree in music. Private instruction in composition offered primarily for a student majoring in composition. Another student may be approved by composition faculty. 2 credits)

575 JAZZ ELECTRIC BASS
576 JAZZ PIANO
577 JAZZ TRUMPET
578 JAZZ TROMBONE
579 JAZZ SAXOPHONE
580 JAZZ COMPOSITION
581 JAZZ VOCAL STYLES

COMMUNICATION

7600:

580 HISTORY OF JOURNALISM IN AMERICA 2 credits

A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.

583 WOMEN, MINORITIES AND MEDIA 3 credits

Study of images of women and minorities in U.S. news, along with the power women and minorities have as decision-makers in the news industry.

584 COMMUNICATION IN ORGANIZATIONS 3 credits

Overview of theories and approaches for understanding communication flow and practices in organizations; including interdepartmental, network, superior-subordinate, formal and informal communication.

585 ANALYZING ORGANIZATIONAL COMMUNICATION 3 credits

Prerequisites: 535 or permission. Methodology for in-depth analysis and application of communication in organizations; team building, conflict management, communication flow, individual and group projects, simulations.

586 TRAINING METHODS IN COMMUNICATION 3 credits

Prerequisites: 535 or permission. Principles and concepts in the design and delivery of communication training programs; selection of theory and methodology; preparation skills; matching methods and learner needs.

587 THEORY OF GROUP PROCESSES 3 credits

Group communication theory and conference leadership as applied to individual projects and seminar reports.

588 PUBLIC SPEAKING IN AMERICA 2 credits

Survey and critical analysis of major speakers and speech movements in American history. Examines the role of public speaking in American history and society. [3 credits]

589 ADVANCED MEDIA WRITING 3 credits

Prerequisites: 231, 280, or equivalent. Analysis of production problems and design and their effect on writing and recording techniques. 3 credits

590 AUDIO AND VIDEO EDITING 3 credits

Prerequisites: 231, 280, or equivalent. Advanced media production in audio and video for broadcast and corporate applications.

591 ADVANCED AUDIO AND VIDEO EDITING 3 credits

Prerequisites: 231, 280, or equivalent. Advanced media production in audio and video for broadcast and corporate applications.

592 THEORIES OF RHETORIC 3 credits

Study of key figures in the history of rhetorical theory and the development of rhetorical theory in the United States.

593 COMMUNICATION WORKSHOP 3 credits

May be repeated for a total of six credits. Group study or group projects in enlisting a particular topic in a program of study. 3 credits

594 ELECTRONIC MEDIA PRODUCTION 3 credits

Prerequisite: permission. Practical application of writing, directing, management, recording, and editing skills to problems in electronic media production.

595 INTRODUCTION TO GRADUATE STUDY IN COMMUNICATION 3 credits

Introduction to the ideas and scholarship of the Department of Communication. 3 credits

596 EMPirical RESEARCH IN COMMUNICATION 3 credits

An introduction to elementary concepts of empirical and quantitative research and their application to studies in various fields of communication.

597 INTRODUCTION TO QUANTITATIVE RESEARCH IN COMMUNICATION 3 credits

Prerequisites: 603 or equivalent. An introduction to reading and understanding research designs employing basic parametric and nonparametric descriptive and inferential testing techniques to measure and interpret relationships. 3 credits

598 STATISTICAL PROBLEMS IN THE BASIC SPEECH COURSE 1 credit

Designed to train a graduate student in methods and materials of introductory speech course. 1 credit
SPEECH-LANGUAGE PATHOLOGY & AUDDIOLOGY 7700:

540 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits

542 AUGMENTATIVE COMMUNICATION 2 credits

543 MULTICULTURAL CONSIDERATIONS FOR AUDIOLIGISTS AND SPEECH-LANGUAGE PATHOLOGISTS 2 credits

560 SPEECH-LANGUAGE AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits

561 ORGANIZATION AND ADMINISTRATION PUBLC SCHOOL SPEECH-LANGUAGE AND HEARING PROGRMS 2 credits

563 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits

590 RHETORICAL CRITICISM 3 credits

601 RHETORICAL CRITICISM 3 credits

624 RHETORICAL CRITICISM 3 credits

632 RHETORICAL CRITICISM 3 credits

639 RHETORICAL CRITICISM 3 credits

645 INTERCULTURAL COMMUNICATION 3 credits

678 CONTEMPORARY ISSUES IN MASS COMMUNICATION 3 credits

699 CONTEMPORARY ISSUES IN MASS COMMUNICATION 3 credits

699 CONTEMPORARY ISSUES IN MASS COMMUNICATION 3 credits

7700 SPEECH-LANGUAGE PATHOLOGY & AUDDIOLOGY 7700:

540 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits

542 AUGMENTATIVE COMMUNICATION 2 credits

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624 RHETORICAL CRITICISM 3 credits

632 RHETORICAL CRITICISM 3 credits

639 RHETORICAL CRITICISM 3 credits

645 INTERCULTURAL COMMUNICATION 3 credits

678 CONTEMPORARY ISSUES IN MASS COMMUNICATION 3 credits

699 CONTEMPORARY ISSUES IN MASS COMMUNICATION 3 credits

699 CONTEMPORARY ISSUES IN MASS COMMUNICATION 3 credits
SOCIAL WORK

7750:

501. SOCIAL WORK PRACTICE 1  
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.

502. SOCIAL WORK PRACTICE II  
3 credits  
Prerequisite: 277 or permission of instructor. Concepts and methods of social work practice, particularly focusing on understanding and working with groups in various settings.

503. SOCIAL WORK PRACTICE III  
2 credits  
Prerequisite: 401 or permission of instructor. Development of understanding and practice methods for utilization of community organization and social policy as social work practice in various problem-solving programs to their needs.

504. SOCIAL WORK PRACTICE IV  
3 credits  
Prerequisite: 401 or permission of instructor. Professional social work practice with families, social services, the dynamics of family systems, assessment of family functioning and dysfunction, and professional helping professions.

510. MINORITY ISSUES IN SOCIAL WORK PRACTICE  
3 credits  
Prerequisite: 276 or permission of instructor. Minorities in social work practice: the social worker's role in the minority community. Race, social, economic, and cultural issues in social work practice. Minorities in various settings.

511. WOMEN'S ISSUES IN SOCIAL WORK PRACTICE  
3 credits  
Prerequisite: 276 or permission of instructor. Women's issues in social work: issues of equality and issues of social work practice.

525. SOCIAL WORK ETHICS  
3 credits  
Prerequisite: 276 or permission of instructor. Social worker ethics. An examination of ethics related to social work practice.

627. HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT  
3 credits  
Prerequisite: 401 or permission of instructor. An examination of the role of social work practice in the human environment. The role of social work practice in the human environment.

630. HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT  
3 credits  
Prerequisite: 427. An examination of social work practice in the human environment. The role of social work practice in the human environment.

640. SOCIAL WORK RESEARCH  
3 credits  
Prerequisite: 440. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

541. SOCIAL WORK RESEARCH II  
3 credits  
Prerequisite: 441. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

542. SOCIAL WORK RESEARCH III  
2 credits  
Prerequisite: 442. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

543. SOCIAL WORK RESEARCH IV  
2 credits  
Prerequisite: 443. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

544. SOCIAL WORK RESEARCH V  
2 credits  
Prerequisite: 444. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

545. SOCIAL WORK RESEARCH VI  
2 credits  
Prerequisite: 445. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

546. SOCIAL WORK RESEARCH VII  
2 credits  
Prerequisite: 446. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

547. SOCIAL WORK RESEARCH VIII  
2 credits  
Prerequisite: 447. An examination of research design and methodology in social work research. The role of social work practice in the human environment.

548. SOCIAL WORK RESEARCH IX  
2 credits  
Prerequisite: 448. An examination of research design and methodology in social work research. The role of social work practice in the human environment.
691 ARTS ADMINISTRATION PRACTICES AND POLICIES 3 credits
Financial management of the arts, facility management, presenting performances, tour management, and unique management problems in nonprofit theater companies, dance companies, orchestras, and museums.

692 LEGAL ASPECTS OF ARTS ADMINISTRATORS 2 credits
Legal responsibilities and liabilities of arts organization contracts, copyright law, insurance, taxation, artists' rights, personnel law, and labor law.

698 INTERNSHIP 3-4 credits
Prerequisite: permission. Faculty supervised work experience in which student participates in an arts management performance or technical situation with a selected cultural organization.

699 MASTER'S THESIS (May be repeated for a total of six credits) Prerequisite: permission of graduate coordinator of theater arts program. Research related to the completion of the master's thesis.

THEATER ORGANIZATIONS 7810:

601 PRODUCTION PRACTICUM/DIGITAL TECHNOLOGY 3-4 credits
May be repeated for a total of four credits. Prerequisite: permission of instructor. Practice is selected production design/technology projects. Applications and techniques as they apply to production projects and major departmental productions.

605 PERFORMANCE PRACTICUM 3 credits
May be repeated for a total of six credits. Prerequisite: permission of project advisor. Recognition of work undertaken by the student when performing a role in a theater production. Credit assigned and work supervised by faculty project supervisor.

DANCE 7900:

590 WORKSHOP IN DANCE 1-2 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 PERFORMANCE 7920:

590 WORKSHOP IN DANCE 1-2 credits
Prerequisite: Advanced standing or permission. May be repeated for a total of eight credits. Group study or group projects investigating particular area of dance not covered by other courses in curriculum.

NURSING 8200:

500 INTERNATIONAL NURSING 3 credits
Prerequisite: Admission to MSN Program. A comparison of nursing roles and responsibilities in an international environment. The influence of education, ethics, government, demography, and geography on health care will be considered.

509 SPECIAL TOPICS: NURSING 1-2 credits
May be repeated as new topics are presented. Group study of special topics in nursing. May not be used to meet requirements in the major in nursing. May be used for elective credit.

593 WORKSHOPS 1-4 credits
May be repeated as new topics are presented. Selected topics in nursing. May be used to meet undergraduate graduation requirements at the discretion of the college.

598 SPECIAL READINGS 1-4 credits
Prerequisite: permission of instructor. 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.

603 THEORETICAL BASIS FOR NURSING 3 credits
Prerequisite: Admission to the Graduate Program. Overview of major nursing theories, evaluation of critical and critical models. Analysis of the relationships of theory, research, and practice.

606 COMPUTER APPLICATIONS IN NURSING 3 credits
Prerequisite: admission to Graduate Program. Computer systems influencing nursing practice, research, education, and national knowledge exchanges are examined. The complex issues surrounding their use in nursing are explored.

607 POLICY ISSUES IN NURSING 2 credits
Prerequisite: admission to Graduate Program. Analysis of major issues that impact on nursing and health care delivery to diverse populations. Examines methods to shape policy, distribute resources, and assess outcomes.

608 PATHOPHYSIOLOGICAL CONCEPTS OF NURSING CARE 3 credits
Prerequisite: Acceptance into the MSN Program. In-depth study of pathological conditions and related treatment modalities. Focus on specific nursing interventions utilized to address pathological abnormalities.

610 ADVANCED ADULT/GERONTOLOGICAL ASSESSMENT 3 credits
Prerequisite: 621 or 671. Advanced adult/gerontological assessment and related treatment modalities. Focus on specific nursing interventions utilized to address pathological abnormalities.

612 ADVANCED CLINICAL PHARMACOLOGY 3 credits
Prerequisite: 621. Examinations of pharmacology and therapeutics related to pharmacological agents used by Advanced Practice Nurses to manage adult/gerontological problems in patient's health care settings.

613 NURSING INQUIRY I 3 credits
Prerequisite: Admission to graduate program. Concepts and ethical issues related to scientific inquiry are examined. Emphasis is placed on the evaluation of the scholarly research process. Students participate in critical analysis of nursing research.

615 ADVANCED CLINICAL PRACTICE SEMINAR 2 credits
Prerequisites: 657 or 667. Focus on issues, concepts, and theories relevant to the development of advanced clinical practice roles.

618 NURSING INQUIRY II 4 credits
Prerequisite: 661; and permission of instructor. Emphasis on development of competencies in scientific inquiry. Research method will involve a pilot study, or participation in faculty research.

621 GERONTOLOGICAL NURSING I 3 credits
Prerequisite: 671. Gerontological assessment of elderly patients, including medical, physical, and psychological factors. Focus on nursing in long-term care and home health care settings.

625 GERONTOLOGICAL NURSING II 3 credits
Prerequisite: 671. Focus on the care of elderly patients in long-term care settings. Focus on the physical, psychological, and social aspects of care.

627 GERONTOLOGICAL NURSING III 4 credits
Prerequisite: 671. Focus on the care of elderly patients in long-term care settings. Focus on the physical, psychological, and social aspects of care.

629 PRACTICUM: GERONTOLOGICAL NURSING 3 credits
Prerequisite: completion of the gerontological nursing course. Focus on the care of elderly patients in long-term care settings. Focus on the physical, psychological, and social aspects of care.

631 NURSING INQUIRY III 3 credits
Prerequisite: 671. Focus on the care of elderly patients in long-term care settings. Focus on the physical, psychological, and social aspects of care.

633 RESOURCE MANAGEMENT IN NURSING SETTINGS 3 credits
Prerequisite: completion of the gerontological nursing course. Focus on the care of elderly patients in long-term care settings. Focus on the physical, psychological, and social aspects of care.

642 FISCAL MANAGEMENT IN NURSING ADMINISTRATION 3 credits
Prerequisite: Admission to MSN Program. Focus on the financial management of fiscal resources in nursing service settings.

655 ORGANIZATIONAL BEHAVIOR IN NURSING SETTINGS 3 credits
Prerequisite: 603, 612, 671, 678. Focus on organizational behavior theories, concepts, and principles related to systems analysis and assessment of organizational structure in nursing settings.

683 PRACTICUM: NURSING ADMINISTRATION I 5 credits
Prerequisite: completion of the gerontological nursing course. Focus on the care of elderly patients in long-term care settings. Focus on the physical, psychological, and social aspects of care.
639 PRACTICUM: NURSING ADMINISTRATION I
Prerequisite: 638. Leadership and management theories are utilized to guide practice of the role of nurse administrator.
5 credits

640 SCIENTIFIC COMPONENTS OF NURSE ANESTHESIA
Prerequisite: Consent of Nurse Anesthesia Coordinator. Corequisite: 610. The course presents content dealing with the chemical and physical components of anesthesia agents.
3 credits

641 PHARMACOLOGY FOR NURSE ANESTHESIA I
Prerequisites: 603, 612, 640. The study of pharmacological and pharmacokinetics of drugs used in the administration of general anesthesia. Students will use key reference materials.
3 credits

642 PRINCIPLES OF ANESTHESIA I
Prerequisites: 840. The course focuses on the acquisition of basic skills relating to providing anesthesia care and administration of anesthesia agents, with a focus on safe practice.
4 credits

643 PHARMACOLOGY FOR NURSE ANESTHESIA II
Prerequisite: 641. Focuses on mechanisms of drug transport within the human body for inhaled and injected medications. The effects of anesthetics and analgesics are also discussed.
3 credits

645 PRINCIPLES OF ANESTHESIA II
Prerequisites: 642. Emphasis is on pre-operative anesthesia care including induction techniques, pain management, and ventilator use.
4 credits

647 PROFESSIONAL ROLE SEMINAR
Prerequisites: 644, 645. Discussion of issues, concepts and theories related to the professional role of the nurse anesthetist, focusing on leadership qualities as well as professional ethical issues.
2 credits

649 NURSE ANESTHETIST RESIDENCY
Prerequisite: 636. Lab: 2 credits, PICU: 3 credits. Supervised clinical experiences allowing students to apply knowledge and skills learned in the didactic portion of the nurse anesthetic curriculum.
3 credits

650 ADVANCED PEDIATRIC/ADOLESCENT ASSESSMENT I
Prerequisites: Admission to Child and Adolescent Health Nursing I and/or 600 corequisites. 601. Advanced pediatric/adolescent assessment and clinical reasoning for primary healthcare nurses with an introduction to differential diagnosis and clinical management.
2 credits

651 CHILD AND ADOLESCENT HEALTH NURSING I
Corequisites: 650. Primary health care nursing to enhance positive health behavior outcomes of well children/adolescents and those with minor health problems and issues in family/community contexts.
4 credits

652 CHILD AND ADOLESCENT HEALTH NURSING II
Prerequisites: 651, Corequisite: 613. Primary health care nursing to increase positive health behavior outcomes of children/adolescents with acute and chronic health problems in family/community contexts.
4 credits

656 PHARMACOLOGY FOR CHILD AND ADOLESCENT HEALTH NURSING
Prerequisite: Admission to Graduate Program. Emphasis on major categories of pharmacological agents, their uses, and influences on developmental outcomes of children/adolescents. Antimicrobial, acute and chronic health care environments.
3 credits

657 CHILD AND ADOLESCENT HEALTH NURSING II
Prerequisite: 656. Emphasis on advanced practice in primary health care using consultation and program development/monitoring related to development of health behavior outcomes of children/adolescents and families.
4 credits

659 PRACTICUM - CHILD AND ADOLESCENT HEALTH NURSING
Prerequisites: 657, Corequisite: 625. Emphasis on evaluation and implementation of programmatic interventions. Application of clinical reasoning and critical thinking by students in learning situations.
2 credits

661 LIAISON-COMMUNITY MENTAL HEALTH NURSING I
Prerequisites: Corequisites: 620, 3300, 6270. Focuses on mental health of individuals experiencing stress related to actual or potential health problems. Theoretical knowledge, interpersonal, and critical thinking skills are emphasized.
3 credits

662 PSYCHOPHARMACOLOGY
Prerequisite: 659. Corequisite: 612. Emphasizes principles of pharmacology and pharmacotherapy for psychiatric/psychiatric agents used by advanced Practice Psychiatric Nurses to manage adult mental health problems in various settings.
1 credit

663 LIAISON-COMMUNITY MENTAL HEALTH NURSING INTERNSHIP
Prerequisites: 661 and 662. Focuses on development of interpersonal skills utilizing knowledge of therapeutic techniques, psychopharmacology and pharmacology. Emphasis is on direct care of individuals with mental health problems.
2 credits

665 LIAISON-COMMUNITY MENTAL HEALTH NURSING II
Prerequisites: 660, 3300, 670. Emphasis on liaison mental health nursing with families experiencing the stress of actual or potential health problems. Theoretical frameworks for direct interventions are examined.
4 credits

667 LIAISON-COMMUNITY MENTAL HEALTH NURSING III
Prerequisite: 665. Corequisite: 620. Focuses on liaison mental health nursing consultation with health-care professionals. Theoretical frameworks for direct models of intervention in non-acute settings are emphasized.
4 credits

689 PRACTICUM: LIAISON - COMMUNITY MENTAL HEALTH NURSING
Prerequisite: 667. Emphasizes knowledge and skills related to mental health nursing with specific vulnerable populations. Emphasis on implementation of psychiatric differential diagnosis and evaluation.
3 credits

671 ADULT HEALTH NURSING I
POLYMER ENGINEERING

9841:

601 POLYMER ENGINEERING SEMINAR  2 credits
Prerequisites of recent research on topics in polymer engineering by internal and external speakers.

611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTRON MICROSCOPY  2 credits
Characterization of orientation, morphology, superstructure in polymers using x-ray, light scattering, brightness, absorption, phase contrast, crystallography, and still determination.

621 POLYMER PHYSICS  3 credits
Experimental methods of determination of rheological properties of polymer melts, solutions, emulsions. Structure-behavior relationships, viscoelasticity theory, application to practical materials, structure-property relationships in polymer processing.

622 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS I  3 credits
Prerequisite: 611. Mathematical modeling and engineering design analysis of polymer processing operations involving injection molding, extrusion, compression molding, injection molding, and film formation.

623 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS II  3 credits
Prerequisite: 621. Permeability of instructor. Basic studies on polymer rheology, application of orientation and residual stress, applications, including pipe lining and thin film extrusion.

631 ENGINEERING PROPERTIES OF SOLID POLYMERS  2 credits
Treats as a function of atomic structure, optical characteristics, mechanical including linear studies, design of polymers and plastics, large strain behavior and emphasis on empirical methods.

635 MECHANICAL STRONGNESS OF POLYMERIC SOLIDS  3 credits
Examines in detail the mechanical behavior of polymers, emphasis on their fatigue and long-term testing, environmental stress cracking, static fatigue of failure, and failure of mechanisms known in the field of engineering, and reinforcement of elastomers.

641 POLYMERIC MATERIALS ENGINEERING SCIENCES  2 credits
Polymers as chemical and mechanical systems. Crystal and polymer crystallography. Glass transition, crystallization, molecular orientation and morphology of important commodity polymers, fabrication methods and composite materials.

642 ENGINEERING ASPECTS OF POLYMER CATALYSTS  2 credits
Thermodynamic and chemical properties of polymer catalysis, polymerization, polymer solutions, gels, solids and suspensions, phase separation, applications to paints and plastic technology.

509 INTRODUCTION TO POLYMER ENGINEERING  2 credits
Basic concepts of polymer engineering taught in a lecture-laboratory format intended for orientation of new graduate students.

615 POLYMER ENGINEERING LABORATORY  2 credits
Laboratory experiments on the rheological characterization of polymer melts fabrication of engineering-related, structural investigation of polymeric parts.

661 POLYMER RHEOLOGY AND ENGINEERING SCIENCE  3 credits
Polymer kinetics, classical theory of elasticity, composition of polymers in batch and continuous stirred tank reactors, flow patterns around agitators, lab-scale reactor startup to reactor reliability.

699 MASTER'S THESIS  14 credits
May be repeated up to 14 credits. Supervised original research in specific area of polymer engineering.

711 ADVANCED EMERGENCY AND OPTICAL PROPERTIES AND INVESTIGATIONS OF POLYMERS  2 credits
Fundamentals with emphasis on applications to anisotropic and anisotropic as well as anisotropic and anisotropic and representation of orientation, optical instruments, colorimetry, scattering, and diffraction, and behavior.

712 RHEOLOGICAL PROPERTIES  2 credits

716 RADIATION AND IRRADIATION BY POLYMER MATERIALS  2 credits
Principles of radiation and irradiation theory as applied to polymer crystallization and radiation chemistry, and representation of orientation distribution of polymer and determination of orientation factors by X-ray methods.

718 NON-NEWTONIAN FLOW  2 credits
Laboratory course in non-Newtonian fluid dynamics. viscosity measuring, viscometer methods.

720 MOLECULAR ASPECTS OF POLYMER RHEOLOGY  2 credits
Prerequisites: 611 or permission of instructor. Polymeric theories for concentrated solutions and melts of polymer solutions with thermodynamic behavior of non-linear polymer blends, block copolymers, and liquid-crystalline polymers.

721 RHEOLOGY AND PROCESSING OF TWO-PHASE POLYMER SYSTEMS  2 credits
Prerequisites: 611 or equivalent. Principles and techniques of processing, mixing devices and design, theoretical and mathematical techniques of suspensions of rigid particles, experimental studies of rheological behavior, microstructural effects on flow behavior, dispersion of particles in an emulsion, polymeric gel behavior, and rheological properties of blends.

722 ADVANCED MODELING OF POLYMER PROCESSING  2 credits
Prerequisites: permission of instructor. Modeling of processing operations including injection molding, flow and film extrusion, computer simulation.

723 RHEOLOGY AND PROCESSING OF ELASTOMERS  2 credits
Prerequisites: permission of instructor. Rheological behavior of polymers, deformation and stress-strain characteristics in polymers, relation of non-linear models, compression-molding, injection molding.

724 ADVANCED EXTRUSION AND COMPOUNDING  2 credits
Principles of operation and flow in single and twin-screw extruders, screw design, characteristics of extruders, analysis of flow and simulation of flow.

725 CHEMISOPHICATION AND PROCESSING OF THERMOSET  2 credits
Prerequisites: 611 or 621. Permission of instructor. Rheological behavior of thermosets, utilization of rubbers, time-temperature-strain relationship in polymers, relation injection molding, compression-molding, injection molding, and related operations.

727 ADVANCED POLYMER RHEOLOGY  2 credits
Prerequisite: 621. Permission of instructor. Structure of low molecular weight and polymeric liquid crystals, characterization properties including shape, size, melting, viscosity, and flow behavior of polymeric materials.

731 BLEND MOLDING AND REWORKING  2 credits
Fundamentals of rubbery phase behavior and character, glassy behavior and theoretical concepts. Material structure and processing equipment. Costing and trimming to a final product.

729 ADVANCED TOPICS IN POLYMERS  2 credits
Prerequisite: 621 or instructor permission. Advanced theoretical topics intended for Ph.D. students in polymer engineering.

968 PRELIMINARY RESEARCH  15 credits
May be individual. Preliminary research, completion of qualifying examination, approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

999 DOCTORAL DISSERTATION  15 credits
May be individual. Preliminary completion or candidacy examination of student. Advisory Committee. Original research for Ph.D. candidates.

POLYMER SCIENCE

9871:

511 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS I  3 credits
Prerequisites: 304 or 404 or permission. Introduction to the principles of polymer structure and properties of polymers.

512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS II  2 credits
Prerequisite: 4111/511 or permission. General characterization of polymer materials, the polymer supermolecular structure and tacticity. Experimental techniques involving stress-relaxation, stress-strain, creep, and stress behavior of polymeric materials.

513 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS III  2 credits
Prerequisite: 4112/511 or permission. Detailed characterization of polymer materials, the polymer supermolecular structure and tacticity. Experimental techniques involving stress-relaxation, stress-strain, creep, and stress behavior of polymeric materials.

519 WORKSHOP IN POLYMER SCIENCE  3 credits
May be repeated with permission. Group study of selected topics involving polymers. May not be used to meet undergraduate major requirements in polymer science. May be for elective credit only.

520 POLYMER CONCEPTS  2 credits
Prerequisites: 3520.064 and 4500.034 or equivalent courses or permission of instructor. Introduction to basic concepts in polymer science, including polymerization, copolymerization, properties and typical applications of polymers. Polymer nomenclature, definition and classification, polymer stereochemistry and structure-activity relationship.

522 SYNTHESIS AND CHEMICAL BEHAVIOR OF POLYMERS  2 credits
Prerequisite: 621. Permission of instructor. Introduction to fundamentals and practical aspects of polymer synthesis and reactions of polymers, general knowledge of laboratory and commercial methods for polymer synthesis and polymerization.

524 SPECIAL PROJECTS IN POLYMER SCIENCE  12 credits
Prerequisite: Permission of instructor. Research projects of limited duration assigned to students entering polymer science program, intended to familiarize students with typical problems and techniques in this field.

526 POLYMER CHEMISTRY LABORATORY  2 credits
Prerequisites: basic knowledge of organic chemistry and 402 or equivalent. Polymerization and functional group chemistry of polymers, polymer nomenclature, definition and classification, polymer stereochemistry and structure-activity relationship.

558 POLYMER SCIENCE SEMINAR I AND II  2 credits
Prerequisite: limited to high-division or graduate students. Participation is required to pass and may present a 25-minute lecture on some aspect of polymer science and to participate in discussions of lectures presented by other seminar participants.

610 ADVANCED POLYMERS  2 credits
Prerequisites: 3520.065 or 3600.061 or permission. Survey course assigned to broaden outlook of high-division student beyond chemistry and physics of carbon chains.
613 POLYMER SCIENCE LABORATORY
Prerequisites or corequisites: at least one of the courses 581, 631, 651, or 701, or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and processing and testing of polymers.

3 credits

615 LABORATORY COMPUTER APPLICATIONS IN POLYMER SCIENCE
Prerequisites: Basic knowledge of computer programming and permission of instructor. Laboratory use of computers in polymer science research for data acquisition, data analysis, graphing, and preparation of reports and thesis.

3 credits

631 PHYSICAL PROPERTIES OF POLYMERS I
Prerequisites: permission of instructor. Thermodynamic and molecular basis of rubber elasticity, time-dependent mechanical properties of polymeric materials, and flow and enthalpy relaxation: the morphology of crystalline polymeric materials, fracture of polymers.

2 credits

632 PHYSICAL PROPERTIES OF POLYMERS II
Prerequisites: 631 or permission of instructor. Normal-coordinate theory of molecular motion and vibrations to time-dependent mechanical, electrical and optical properties of polymeric systems; time-temperature superposition; free volume, VLD relaxation, fracture, glass transition.

2 credits

649 SYNTHESIS AND TECHNOLOGY OF ELASTOMERS
Prerequisites: 2600.93 and 3850.54 or permission of instructor. The preparation of both natural and synthetic elastomers. Emphasis on polymerization methods, polymer structure and methods of vulcanization. The modification of vulcanizates and the effect on physical characteristics of the elastomers formed.

2 credits

674 POLYMER STRUCTURE AND CHARACTERIZATION
Prerequisites: 3800.333 and 3920.346 or permission of instructor. Presentation of classical description of polymer molecular properties including chain polymerization and degradation, characterization of conformation, molecular weight, local structure, and ordering.

2 credits

675 POLYMER THERMODYNAMICS
Prerequisite: 701 or permission of instructor. Presentation of the theories and experiments concerning polymer systems, polymer phase equilibria and polymeric phase transitions and death solution, steady-state transport.

2 credits

676 POLYMER CHARACTERIZATION LABORATORY
Prerequisite: 675 or permission of instructor. Laboratory analysis of polymers by fractionation, osmometry, viscoelasticity, polymer thermal analysis, spectroscopy and chromatography.

2 credits

680 POLYMER PROCESSING
Prerequisites: permission. Study of processes occurring in polymer conversion industry emphasizing analytical treatment of heat transfer, mass flow, mixing, shaping and testing of polymeric materials.

2 credits

681 DESIGN OF RUBBER COMPONENTS
Prerequisites: 4600.337 or equivalent. Principles of design of elastomeric products emphasizing analytical treatments of elastic behavior and mechanics of failure for resilient mountings, springs, seals, bearings and tires.

2 credits

599 MASTER'S THESIS
Prerequisites: permission. For properly qualified candidate for master's degree. Supervised original research in polymer science, under direction of faculty member, followed by submission of thesis.

2 credits

701 POLYMER TECHNOLOGY I
Prerequisite: 671 or permission of instructor. Presentation of the theories and experiments concerning polymer systems, polymer phase equilibria and polymeric phase transitions and death solution, steady-state transport.

2 credits

702 POLYMER TECHNOLOGY II
Prerequisite: 701 or permission of instructor. Rubber industry, rubber compounding and processing, vulcanization methods, polymer testing, plastics preparation and compounding, manufacturing processes. Lecture/laboratory.

2 credits

703 POLYMER TECHNOLOGY III
Prerequisite: 702 or permission of instructor. Flow properties, extrusion, calendering and milling, molding, mixing, bond operations, engineering properties, rubber springs, viscoelastic analysis and design consideration. Lecture/laboratory.

2 credits

704 CONDENSATION POLYMERIZATION
Prerequisite: 3920.435 or permission of instructor. Survey of the theory and practice of condensation polymerization. Numerous commercial examples are presented with special emphasis being placed on the properties and applications of polymers prepared by this technique. Structure-property relationships are highlighted for each major polymer class.

2 credits

705 FREE RADICAL REACTIONS IN POLYMER SCIENCE
Prerequisite: 3920.435 or permission of instructor. Covers the kinetics and mechanisms of free radical initiated reactions encountered in polymer science, including polymerization methods and considerations of the initiation, propagation and termination steps in vinyl polymerizations and copolymerizations, preparation of block and graft copolymers by free radical initiated reactions and the mechanisms of free radical-induced polymer degradation reactions.

2 credits

706 THERMAL AND MONOMERIC INSERTION REACTIONS
Prerequisites: 3920.435 or permission of instructor. Covers the scope, kinetics and mechanisms of polymerizations initiated by anions, cations, radicals and groups as well as polymerizations induced by coordination catalysts. Living polymerization, molecular weight distributions, stereochemistry, solvatochemical effects, temperature effects, dielectric properties, metal-ligand effects and transformation of polymers, grafting and block copolymer synthesis.

2 credits

707 KINETICS OF POLYMERIC PROCESSES
Prerequisites: 633 and 671 or permission of instructor. Principles of kinetic theory and statistical mechanics are applied to polymer diffusion, polymerization kinetics, polymer adsorption, membrane transport, polymeric phase transformations, gel formation, and colloidal destabilization.

2 credits

708 MACROMOLECULAR CHAIN STRUCTURE
Prerequisites: either 3920.39, 3920.31, or 4200.306 or permission of instructor. Closely related structure of large molecules, fundamental theories of chemical conformation and statistical mechanics, developed to the degree that their application to polymer problems can be discussed.

3 credits

709 MACROMOLECULAR CHAIN STRUCTURE
Prerequisites: 708 or permission. Continuation of topics in 708 including experimental techniques used in elucidation of chain structure.

3 credits

711 SPECIAL TOPICS: POLYMER SCIENCE
Prerequisite: permission. Topics of current interest in polymer science encompassing chemistry, physics and technological aspects of macromolecular substances, including laboratory work where applicable.

3 credits

712 SPECIAL TOPICS: POLYMER SCIENCE
Prerequisite: permission. Topics of current interest in polymer science encompassing chemistry, physics and engineering aspects of macromolecular science.

2 credits

713 CHAIR STRUCTURE LABORATORY
Prerequisites or corequisites: 701 or permission of instructor. Designed to apply principles discussed in 701 to laboratory determination of polymer structure.

2 credits
Grievance Procedures for Graduate Students

Purpose

The procedures set forth in this document are intended to provide graduate students with a formal channel of appeal and redress of grievances arising out of their academic and/or employment relationship with the University.

Procedures

1. Any graduate student who believes that he or she has valid grounds for a complaint shall attempt to resolve the problem through a conference with the faculty member involved, the department head, and/or the graduate advisor. Following that, the student may attempt to resolve the problem with the assistance of the academic dean. A graduate student presenting a case to the academic dean must provide a full written statement of the grievance, together with all appropriate supporting material. When or if the problem has not been adequately solved at that level or the student wishes to appeal that decision, the student shall prepare a written statement of the complaint setting forth clearly and specifically the allegations and shall hand deliver the written complaint to the Dean of the Graduate School. The Dean of the Graduate School shall notify the complainant confirming the receipt of the complaint and shall request all materials from the Dean of the complainant’s college.

2. Within one week of receipt of the complaint, the Dean of the Graduate School shall communicate with all parties in an attempt to informally resolve the problem. The result of this process will be a recommendation by the Dean of the Graduate School which shall be communicated in writing to all parties, including the Senior Vice President and Provost.

3. The complaint shall become a grievance to be filed with the Senior Vice President and Provost if: 1) the Dean of the Graduate School wishes to have a Hearing Committee in a recommendation on the grievance; or 2) the student wishes to appeal the recommendation of the Dean of the Graduate School. The student shall notify the Senior Vice President and Provost in writing within one week of notification of the Dean of the Graduate School’s decision on the complaint.

4. Upon receipt of the grievance, the Senior Vice President and Provost shall notify in writing the President of Graduate Student Government that a Hearing Committee should be constituted. The Hearing Committee shall be organized in no more than two weeks.

5. When the grievance has been filed with the Chairperson of the Hearing Committee, it shall be the responsibility of that Chairperson to notify in writing all parties involved in the grievance within two working days. This notification shall include the following information: that a grievance has been filed; the nature of the grievance; and the parties involved.

6. If the charged party in that grievance denies the validity of the grievance, the Chairperson of the Hearing Committee shall waive the hearing and shall direct an appropriate resolution in consultation with the Hearing Committee.

7. If the party charged in the grievance denies the validity of the grievance, the Hearing Committee shall conduct the hearing.

Hearing Committee

A Hearing Committee shall be established as follows:

1. Chairperson — The Chairperson shall be a member of the graduate faculty with full membership, but not from a department involved in the proceedings. This Chairperson shall be chosen at random from an established pool selected by the Graduate Council and shall serve for only one grievance proceeding. The Chairperson shall conduct the hearing and shall vote only in the case of a tie.

2. Members — Four members shall be selected as follows:

   a. A graduate student not involved with the complainant and not from the complainant’s department, selected jointly by the Department Chair and the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the department, the Senior Vice President and Provost shall substitute for the Department Chair.

   b. A faculty member not involved with the complainant and not from the complainant’s department, selected jointly by the Department Chair and the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Head. If the grievance is filed against the department, the Senior Vice President and Provost shall substitute for the Department Chair.

   c. A graduate student not involved with the complainant and not from the complainant’s department, selected by the Vice Chairperson of the Graduate Council.

   d. A member of the graduate faculty with full membership not involved in the complaint nor from the complainant’s department, selected by the Senior Vice President and Provost.

   e. A Hearing Committee shall be organized anew each and every time a grievance is brought forth. A Hearing Committee shall serve through the adjudication and resolution of the complaint.

Hearing Procedure

1. The hearing shall take place within two weeks of the Hearing Committee’s formation.

2. At least three working days prior to the hearing, the Hearing Committee Chairperson shall provide the Hearing Committee and the parties involved with:

   a. The student’s written statement of the grievance.

   b. Written notification of when and where the Hearing Committee shall meet.

   c. A copy of “Grievance Procedures for Graduate Students” and all relevant documents.

3. Each party shall be required to appear in person before the Hearing Committee to present his/her case. Each party may have an advisor/counsel present to protect his/her rights if so desired. However, the parties shall speak and act on their own behalf. Witnesses may be called to present evidence on behalf of the complainant or the charged person. The use of tape recorders is prohibited, except as may be required to accommodate persons with disabilities.

4. At least two parties shall be entitled to an expedient hearing. In urgent cases in which it is alleged that a regulation, administration decision, or action threatens imminent and irreparable harm to any of the parties involved, the Hearing Committee shall expedite the hearing and disposition of the case. The Hearing Committee is empowered to recommend to the Dean of the Graduate School that an individual, department, or college discontinue or postpone any action which threatens to cause irreparable harm, pending the final disposition of the case.

5. The burden of proof shall be on the complainant and the standards of justice and fair play shall prevail in the adjudication of violations and grievances.

6. If necessary, the Hearing Committee may consult with the University’s Office of General Counsel for advice at any time throughout this process.

Decisions and Actions

1. The Hearing Committee shall decide as follows: there has been no violation of the complainant’s rights, there has been no violation of the complainant’s rights.

2. If the Hearing Committee determines that a violation of the complainant’s rights occurred, the Committee shall, if practical, recommend a resolution to the Senior Vice President and Provost.

3. The Senior Vice President and Provost, exercising higher judgment, shall act on the implementation of the resolution recommended by the Hearing Committee.

Record Keeping

The Chairperson of the Hearing Committee shall be responsible for keeping a summarized, written record of all the proceedings.

1. Records of all proceedings shall be prepared by the secretarial personnel of the Graduate School. Copies of all proceedings shall be distributed as follows:

   a. To all parties involved in the proceedings.

   b. To the hearing Committee members.

   c. To the President of the Graduate Student Government.

   d. To the Dean of the Graduate School.

   e. To the Senior Vice President and Provost.

2. A copy of all proceedings shall be kept in the office of the Dean of the Graduate School pursuant to the University’s record retention proposal.

Appeal

An appeal may be made to the President of the University after all of the above procedures have been followed. The President of the University shall assess each case on an individual basis and his/her decision shall be considered final.

Approved by Student Policy Committee, 2/25/93
Approved by Graduate Council, 3/20/93
Approved by Graduate Faculty, 4/22/93
Approved by the Academic Policies, Curriculum and Calendar Committee, 3/25/94
Approved by the Board of Trustees, 6/22/94
Revised Spring 1996 (Student Policy Committee and Graduate Council
Revisions Approved by Graduate Faculty, 4/25/96
Intellectual Property Rights and Obligations

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