1998–1999
Graduate Bulletin

The University of Akron
Calendar 1998-1999

Fall Semester 1998
Day and Evening Classes Begin Mon., Aug. 31
*Labor Day (Day and Evening) Mon., Sept. 7
Veterans Day classes held; staff holiday Wed., Nov. 11
**Thanksgiving Break Thu.-Sat., Nov. 26-28
Classes Resume Mon., Nov. 30
Final Instructional Day Sat., Dec. 12
Final Examination Period Mon.-Sat., Dec. 14-19
Commencement Sat., Dec. 19
Spring Intersession Fri.-Sat., Jan. 2-16, 1999

Spring Semester 1999
*Martin Luther King Day Mon., Jan. 18
Day and Evening Classes Begin Tue., Jan. 19
*Presidents’ Day Tue., Feb. 16
Spring Break Mon.-Sat., Mar. 22-27
***May Day Fri., May 7
Final Instructional Day Sat., May 8
Final Examination Period Mon.-Sat., May 10-15
Commencement Sat., May 15
Summer Intersession Mon.-Fri., May 17-June 11
Commencement for Law School Sun., May 23

Summer Session I 1999
First 5- and 8-Week Sessions Begin Mon., June 14
*Independence Day Fri., July 5
First 5-Week Session Ends Sat., July 17

Summer Session II 1999
Second 5-Week Session Begins Mon., July 19
8-Week Session Ends Sat., Aug. 7
Second 5-Week Session Ends Sat., Aug. 21
Summer Commencement Sat., Aug. 21

Fall Semester 1999
Day and Evening Classes Begin Mon., Aug. 30

Inquiries
Address inquiries concerning:
Graduate study to the Graduate School, The University of Akron, Akron, OH 44325-2101 (330) 972-7653.

Undergraduate admissions information, campus tours, housing, and transfer of credits to the Office of Admissions, The University of Akron, Akron, OH 44325-2001 (330) 972-7100 or toll-free, (800) 655-4884.


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

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

The University switchboard number is (330) 972-7111.

University Closing Policy
The president, or designee, upon the recommendation of the Director of Public Safety and Chief of Police, will determine when conditions—such as severe weather or a state of emergency—necessitate closing the entire University or cancelling classes at the main campus and/or Wayne College in Orrville.

The Director of Public Safety and Chief of Police will promptly notify other designated University officials and members of the Department of University Communications, who will contact area media. University colleges/department/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 campus(es). Call 972-SWOW or 972-6238 (TDDVoice) for updated information.

Disclaimer
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 such 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

Dean, Graduate School
Dr. Charles Dye ................................................................. 972-7664
Assistant to the Dean, Graduate School
Dr. Latherud Goggins ......................................................... 972-6783
Coordinator, Graduate Financial Assistance
Mrs. Dolli Markovich ......................................................... 972-6737
Assistant to the Dean, Graduate School
Mrs. Karen Caldwell ......................................................... 972-6310
Coordinator, Graduate School Admissions
Miss Brenda Henry ............................................................... 972-7665
Coordinator, Graduate Degree Completion
Mrs. Cheryl Garcia ............................................................... 972-5169
Clery Specialist, Graduate School
Mr. Kevin Tondra ............................................................... 972-7663
Graduate Student Government
Mrs. Renne Dragomir (1998-99 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

Buchtelite, The (student newspaper) ...................................... 972-7457
Campus Diversity, Office of ................................................. 972-7658
Academic Support Services ............................................... 972-6769
Access and Retention ......................................................... 972-6769
Center for Child Development ............................................. 972-8210
Communication Centers (photocopying)
Buchtel Library ................................................................. 972-6278
Gardner Student Center ..................................................... 972-7870
Cooperative Education Programs ........................................ 972-6722
Counseling, Testing, And Career Center
Counseling ................................................................. 972-7082
Testing ................................................................. 972-7084
Career Placement Services ................................................ 972-7747
English Language Institute .................................................. 972-7544
Financial Aid, Office of Student Scholarships ........................ 972-7032
Work Study ................................................................. 972-8074
Gardner Student Center ..................................................... 972-7866

Health Services, Student .................................................... 972-7808
International Programs ...................................................... 972-6349
Immigration ................................................................. 972-6349
International Admission ..................................................... 972-6349

Libraries, University
Bierce Library ................................................................. 972-7236 or 972-7497
Law Library ................................................................. 972-7330
Science and Technology Library .......................................... 972-7195
University Archives .......................................................... 972-7670
Pan-African Culture and Research Center .............................. 972-7030
Parking Services ............................................................. 972-7213
Peer Counseling Program .................................................. 972-8288
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 .................................. 972-7926
TTY/TTD (hearing impaired) ............................................... 972-5764
Sports Information, Director of .......................................... 972-7468
Student Assistance Center .................................................. 972-5755
Study Abroad ....................................................................... 972-6349
Ticketmaster ........................................................................ 972-6684
University Program Board .................................................... 972-7014
Veterans Affairs Coordinator and Counselor .......................... 972-7838
Work Study ............................................................................ 972-8074
WZIP-FM Radio Station ....................................................... 972-7105

Emergency Phone Numbers

Police/Fire/EMS ................................................................. 911
Police (non-emergency) ....................................................... 972-7123
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
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 R. Buchtel, were instrumental in securing the charter for the University of Akron. The University of Akron is located in a metropolitan area of 2.8 million people. The University's presence in northeast Ohio provides numerous opportunities for recreation, major colleges, 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, choral programs, Trouping 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 1991, the University participates on the NCAA Division I level in 17 sports.

For 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 awarded 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.

MISSION STATEMENT

The University of Akron, a publicly assisted urban institution, strives to develop enlightened members of society. It offers comprehensive programs of instruction from freshmen through doctoral levels; 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.

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 our 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 their participation in our common enterprise as a university. We value the contributions and respect the needs of students, faculty, contract professionals, staff, administrators, maintenance and service personnel, and everyone else whose work and dedication enable us to pursue our individual and collective academic goals.

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, cultivating 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 invest in a culture of civility, united in our rejection of violence, coercion, deceit, or terrorism. We work to increase collaboration, cooperation, and consensus within a dialogue characterized by mutual respect and consideration.

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 higher 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 preferences, 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 nor 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 members as the organizer and guide through this learning experience, as well as for fellow students. Disruptive, disrespectful, and 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 otherwise 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 accredits 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 101 N. LaSalle St., Chicago, Ill. 60602-2504; telephone (800) 621-7440 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 professional 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:

AACSB, the International Association for Management Education
Accreditation Board for Engineering and Technology
Technology Accreditation Commission
Accreditation Board for Engineering and Technology
Engineering Accreditation Commission
American Association of Nurse Anesthetists
American Medical Society
American Council on Social Work Education
Amencan Dietetic Association
American Home Economics Association
American Medical Association
American Psychological Association
American Speech-Language-Hearing Association
Association of Collegiate Business Schools and Programs
Committee on Allied Health Education and Accreditation of American Medical Association
Council for the Accreditation of Counseling and Related Educational Programs (provisional)
Council for Professional Development of the American Home Economics Association
Foundation for Interior Design Education
National Academy of Early Childhood Programs (division of the National Association for the Education of Young Children)
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 Council for Accreditation of Teacher Education
National League for Nursing
North Central Association of Colleges and Schools
Ohio Board of Nursing Accrediting Commission
Ohio State Department of Public Instruction

The University also holds membership in the following educational organizations:

American Association of Colleges of Nursing
American Association of Colleges for Teacher Education
American Association of Community Colleges
American Association of State Colleges and Universities
American Council on Education
American Society for Engineering Education
American Society for Training and Development
Association of American Law 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 Admission Professionals
National League for Nursing
North American Association of Summer Sessions
Ohio College Association
Ohio Council on Continuing Higher Education
State of New York Court of Appeals
University Continuing Education Association

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 13 acres encompassed only 10 buildings. Currently, the Akron campus covers 170 acres and includes 73 buildings. Plans have been made to remake 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, contains 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, 90, 76, and the Ohio Turnpike) and north-south routes (Interstates 71 and 77), all of which link Akron to the surrounding states and regions. The University itself is located between East 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.

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

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 Coop Office, Mechanical, Electrical, Chemical, and Civil Engineering; as well as the Department of Biology, the recently completed $2 million biology research laboratory, and the Science and engineering housing house.

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

Ballet Center. This center, located at 354 East Market Street, houses dance studios, a choreography laboratory, faculty offices, 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 soldier, the building opened in the spring of 1973. In addition to the book and periodicals collections, the facility houses audio-visual materials, maps, and microforms. University Libraries, including science and technology materials located in the University 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 III). 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 $3.1 million facility, located at 259 South Broadway, was completed in 1991. The structure conveys offices, 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, The Academic Computer Testing Facility, and the Office of the President or the Faculty Senate.

Center for Child Development. This former Girl Scout regional headquarters building at 105 S. Forge St. has been remodeled 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 $13.3 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 House houses the Department of Geology, the Center for Environmental Studies, classrooms, and some of the College of Education offices.

E.J. Thomas Performing Arts Hall. Named for Edward J. Thomas, prominent industrialist and dedicated member of the University Board of Trustees from 1932 to 1975, this cultural center, which cost more than $13.3 million, was formally opened in 1973. Designed to accommodate concerts, opera, ballet, and theater productions, the hall is a masterpiece in architecture, acoustics, and creative mechanisms. It stands at the center 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.

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

Gallucio Hall. This building, at 200 East Exchange Street, formerly a Holiday Inn, is a co-ed residence hall and home to the Honor's 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 Donfred H. Gardner, who was appointed dean of men in 1926. The University's first dean of students in 1937 was the first dean of administration in 1955, and later, in 1959, was promoted to vice president for Student Affairs in 1960. This facility, which serves as a unfurly force in the life of the institution, houses nearly 80 percent of all non-academic activities on campus. It provides bowling alleys, meeting rooms, lounges, student activity and publication offices and workrooms, a game and billiard room, a bookstore, bank facilities, the Gardner Theatre, a cafeteria, and other dining facilities.

Mary E. Gladwin Hall. Housing the College of Nursing and biological laboratories, this building carried on in honor of distinguished alumna Mary E. Gladwin (1887), 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, faculty offices, the Center for Nursing, a Learning Resources Center that includes patient care simulation areas, an audio-visual center, and a state-of-the-art computer learning center.

Goodyear Polymer Center. Construction of the $7 million Polymer Science Building was completed in the spring of 1991. This two-story building is constructed of concrete, glass, and steel, located at 170 University Avenue, houses offices for the College of Polymer Science and Polymer Engineering, 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.

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 and departmental space for the College of Dance, Theatre and Arts Administration, and the School of Music. In addition to providing more than 40 student practice rooms, the complex houses a small experimental theater and a 300-seat recital hall.

James A. Rhodes Health and Physical Education Building (JAR). This structure on Buchtel Common is connected to Memorial Hall by a pedestrian bridge over South High Street and contains a 2,000-seat gymnasium; basketball; volleyball; and track; an indoor jogging track, physical education laboratories, classrooms, the athletic director's office, the sports information office, athletic offices, and a ticket office.

Hower House. Located on Fir Hill, this 19th-century mansion has been designated a Historic Place by the National Park Service.

Knights Chemical Laboratory. This $10 million complex is named in honor of Dr. Charles M. Knight, who taught the former courses in rubber chemistry at Buchtel College of Chemistry and Chemical Technology.

Kolbe Hall. Named for the first president of the Municipal University of Akron, this building was remodeled for the School of Communication at a cost of $73 million. Additions to and remodeled space within the building have provided space for faculty and staff offices, TV studio areas, WZAP-FM radio station, computer labs and classrooms. The building 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 general purpose classroom space. Temporary occupants of the building include Interdisciplinary Studies, the English Language Institute, World Civilization, and Humanities in the Western Tradition offices. The Center for Teaching and Learning, the Mathematics Statistics Department, and the Equal Employment Opportunity/Affirmative Action Office.

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 University-operated restaurant and meeting center. The former 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 11:30 a.m. to 9 p.m. The office of the Department of Development is located on the upper floors of the building.
277 Broadway Street Building. This building provides administrative space for the Office of Human Resources, including benefits, employment services, labor and employee 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. stainless Whitley, a pioneer in the development of paper science, this building opened in 1975. Located 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 Buchtel Common facility houses the College of Engineering and provides a lecture room that seats 245, general classrooms, a teaching 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 for, 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 low animal research facility, a molecular biology research facility, modern laboratories, and equipment that includes advanced light microscopes (differential interference contrast, fluorescence), electron microscopes (scanning and transmission), spectrophotometers, and other modern research tools for identification and characterization of compounds. The Chemical Stores 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 Emile G. and Virginia Reinhard Frieser Room offers office setting for five faculty and the housing of the Department of Economics.

The Department of English maintains a Communication Center, where English students may create and print papers, do desktop publishing, and upload and download text and graphics. The department supports The American Library Association, the National Library of Medicine, and the Library of Congress, as well as the Ohio State University Library, the Ohio State University Library, and the Ohio State University Library.

The Department of Geology has modern instrumentation for field and laboratory studies which includes an automated electron microscope, automated X-ray diffraction system, an on-coupled plasma spectrometer, atomic absorption spectrometer, ion chromatograph, coal and sulfur analyzers, oxygen bomb calorimeter, fluorimeter, and other modern research tools for identification and characterization of compounds. The department supports the journal, *Science*, and the national library of medicine.

The Department of Geosciences offers students the option of working in the field or in the classroom, with access to modern laboratory equipment. The department maintains an inventory of more than 1,100 items, including chemicals, glassware, and apparatus.

The Department of Mathematics houses the undergraduate mathematics department, which includes a wide variety of computing facilities, operating environments, languages, and software research laboratories maintained in and by the department.
Two labs, which contain Intel-based computers, are connected to a Banyan VINES network. One of these labs is frequently used for class laboratory sessions for up to twenty students. This is a standard feature of many entry-level courses in mathematics and computer science. The other lab is an open lab in which students find a similar environment in which to work independently on assignments. The PCs themselves have a Windows 95 environment. NSF TCP/IP has been installed and access is provided to the Internet via ftp, telnet, Mosaic, and Netscape. Software available includes Maple, EISL, and MATLAB for mathematics; Turbo C++, Visual C++, Macropass, TURBO Pascal, and Turbo C++; and WordPerfect, Microsoft Office, and Microsoft Works for more general use.

Another open laboratory is mainly devoted to a UNIX client/server environment. The location provides access to the Internet via telnet, ftp, and Xwindows (software). The college-wide Xwindows system is provided by the Department of Mathematical Sciences. The location is ideal for undergraduate research, but is also available to instructors on an individual basis. This access is provided to all students and faculty with accounts at the University. The location also provides access to the local intranet, the Internet, and the university's mainframe computer. A networked lab has access to the internet via Netscape as well as access to campus computing facilities. Two of these labs are used for research, teaching, and open lab use. The third lab has access to the Internet via the local intranet, as well as access to campus computing facilities. These facilities include OnLine, JumpLink, VM/VM, VM/LSI, and DAX. Equipment available in the lab includes Punched-based computers, HP laser printers, and a variety of computer software packages which include SAS, SPSS, and Lotus. WordPerfect and MS Word are available throughout the department for word processing. A full-time research programmer/analyzer provides software and hardware support for the department's research needs.

The Department of Psychology is located in Olin Hall. The department maintains computer laboratories that are available for undergraduate and graduate students. The department has an Internet capability in which to work independently on research. Two of these labs are used for research, teaching, and open lab use. The third lab has access to the Internet via the local intranet, as well as access to campus computing facilities. Two of these labs are used for research, teaching, and open lab use. The third lab has access to the Internet via the local intranet, as well as access to campus computing facilities. These facilities include OnLine, JumpLink, VM/VM, VM/LSI, and DAX. Equipment available in the lab includes Punched-based computers, HP laser printers, and a variety of computer software packages which include SAS, SPSS, and Lotus. WordPerfect and MS Word are available throughout the department for word processing. A full-time research programmer/analyzer provides software and hardware support for the department's research needs.

The Department of Political Science maintains an instructional computer laboratory consisting of eight computers and a scanner. This laboratory is used by Political Science students assigned research tasks requiring improved computer and Internet access. The Institute for Policy Studies houses the Survey Research Center, the Data Services Center, the Center for Urban Policy Research, and the Center for the Study of Politics and Policy. Various research opportunities exist for graduate students. The Survey Research Center facility is used for grant and contract research covering national, state, and local studies, and provides multiple data collection methods, including a computer-assisted telephone interviewing laboratory.

The Department of Sociology facilities include research laboratories used for funded research projects and a complete microcomputer laboratory for all graduate students. The department shares a computer laboratory for undergraduate and graduate programs. The department's computer laboratory contains an IBM-compatible system equipped with approximately 35 personal computers and a homework laboratory. A computer science laboratory includes access to the Internet and a variety of software packages available.

The Department 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 department has 12 computer laboratories available to students and faculty. The computer science laboratory contains SUN SparcStations, IBM PISC 6000, and Silicon Graphics Workstations. A MacOs Powers computer is provided for parallel processing. A variety of workstations and PCs is connected to the Banyan VINES network and the SUN network. The Center for Statistical Consulting provides statistical consultation to students and faculty with a need for statistical assistance in their work.

The college's computer facilities are located throughout the department and are available to faculty, students, and visitors. The college's mainframe computer is connected to the Banyan VINES network and the SUN network. The college's computer laboratory includes access to the Internet and a variety of software packages available.

The Department of Communications and Computer Science maintains an instructional computer laboratory consisting of eight computers and a scanner. This laboratory is used by Communications and Computer Science students assigned research tasks requiring improved computer and Internet access. The department also provides software and hardware support for the department's research needs.
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 undergraduates and graduate students in the College of Education. The department serves undergraduate students by providing instruction in core courses in teaching education. In the area of leadership, the department provides graduate courses in school administration and higher education administration. The department members also teach the core curriculum of historical, philosophical, psychological, and social foundations of education graduate programs. They teach, advise, and supervise problems, theses, and dissertations of students in their degree-granting graduate programs, the master’s in Educational Foundations, the master’s and doctoral programs in Educational Administration, and the master’s and doctoral programs in higher Education.

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, teaching skills (microteaching), and computer utilization in physical and health education. The department has access to the James A. Rhodes Health and Physical Education Building (classrooms, the main gym, an indoor running track, a multipurpose room, and four teaching station areas). Memorial Hall (classrooms, as well as large and small gym), Ocsell Nataatorium (classroom, a swimming pool, nine racquetball courts, and a weight room), and Lee Jacob Field (14 tennis courts, an outdoor running track, and two softball fields).

The Department of Curriculum and Instructional Studies includes both the areas of secondary education and elementary education; instruction in secondary education prepares students for teaching careers at 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. This department also offers the Technical Education degree, which prepares students for teaching/technology and other personnel positions at the postsecondary level and for business and industry settings. Instruction in elementary education uses those strategies appropriate for the Pre-K 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 higher-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 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, which 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 encompasses the departments of Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Mechanical Engineering, and Environmental Engineering. The College offers undergraduate and graduate programs in various fields of engineering and related disciplines. It also provides continuing education opportunities for professionals in the engineering and related fields.

The College of Engineering is home to numerous research centers and facilities, including the Biomedical Engineering Research Center, the Chemical Engineering Research Center, the Civil Engineering Research Center, the Computer Engineering Research Center, the Electrical Engineering Research Center, the Environmental Engineering Research Center, the Mechanical Engineering Research Center, and the Materials Science and Engineering Research Center. These centers and facilities support research in a wide range of areas, including biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, mechanical engineering, and environmental engineering.

The College of Engineering also offers a comprehensive curriculum designed to prepare students for careers in engineering and related fields. The curriculum includes a strong emphasis on problem-solving, critical thinking, and communication skills. Students are encouraged to apply their knowledge and skills in real-world settings through internships, co-op programs, and research opportunities.

The College of Engineering is committed to fostering a diverse and inclusive environment that values and respects the contributions of all students, faculty, and staff. The College strives to create an environment that promotes innovation, collaboration, and excellence in education, research, and service.
In the soil mechanics and foundation engineering lab, a student learns how to analyze soil by a variety of tests and equipment to determine shear strength characteristics, compaction characteristics, and seismic and electrical resistivity equipment for geophysical exploration of soil and rock deposits.

In addition to the standard equipment for routine testing, the laboratory has a computer-controlled cyclic triaxial testing system, pneumatically loaded consolidometers, flexible wall permeameters, a portable static/dynamic cone penetrometer, a piezoelectric 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 structural members subjected to tension, compression, bending, and shear is accomplished with the use of these universal testing machines, an MTS closed-loop system which has a loading capacity to 100,000 pounds, and two Instron dynamic testing machines which can be used in either axial or torsional loading.

The Department of Electrical Engineering is located in the South Tower of the Auburn Science and Engineering Center. Learning facilities in the Department of Electrical Engineering include laboratories for the study of circuit, analog and digital electronics, control, computers, energy conversion, microprocessor interfacing, power electronics, and electromagnetic/microwaves. 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 voltmeter/meter 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 simulation of 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 access to the students. The laboratory contains networks personal computers with all software necessary for other courses, as well as work processing and networking software. The laboratory also serves courses in computer engineering and many elective courses and careers.

The two control laboratories teach the basics of analog and digital control. The laboratories are 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 they can be used in design. The laboratory has uses a variety of real-world devices and projects to keep students up to date in this important engineering activity. The equipment in the laboratory includes personal computers, single-board microcomputers and industrial computers 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 antennas to teach the principles involved. In addition to the basic equipment, the laboratory has a shielded room for specialized measurements.

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

The Department of Mechanical Engineering is located in the Auburn Science and Engineering Center. There are eight laboratories in the Department of Mechanical Engineering. The Thermal and Fluid Science Laboratory has internal combustion engines, a super sonic wind tunnel, a subsonic wind tunnel, and a water tunnel. The Heat Transfer Laboratory has temperature measurement systems, a gas laser, and a spectrum of heat exchangers.

The Mechanical Measurements Laboratory has a complete complement of transducers, calibration equipment and standards, signal conditioners, analog recording devices and microprocessor-based digital data acquisition systems. The Materials Testing Laboratory has a computer-controlled servohydraulic structural testing machine and a universal tension testing machine for performing static, quasi-static, cyclic, and high-strain-rate tests on a spectrum of engineering materials and several types of hardness testing equipment.

The Experimental Mechanics Laboratory has photoelastic strain measurement equipment and associated equipment, coupled with a complete range of strain gauge instrumentation for both static and dynamic measurements. The Mechanical Design Laboratory has several major software packages for computer-aided design connected to the College’s Engineering Computer Network Facility (ECNF), The System Dynamics and Controls Laboratory is composed of several microprocessors, analog computers, and digital controllers, as well as equipment for process control and robotics.

The Vibration and Acoustics Laboratory has electromechanical shakers, sound pressure level instrumentation, and frequency spectrum analyzers for modal analysis. The Metallurgy and Failure Analysis Laboratory has a complete set of metallurgical instrumentation for microstructural analysis of both conventional and advanced engineering materials, and electron microscopes for analysis of failure. Undergraduates in the Mechanical Engineering Program use laboratory facilities in the Department of Polymer Science, the Department of Polymer Engineering, and the Maurice Morton Institute of Polymer Science in addition to the laboratories in the Department of Mechanical Engineering.

The facilities in the Department of Polymer Science contain extensive laboratories for polymer synthesis chemistry and for the characterization of macromolecules and polymer morphology. A nuclear magnetic resonance laboratory is maintained with several high-resolution instruments. The research section of the Maurice Morton Institute of Polymer Science operates a variety of analytical and compounding/testing laboratories to serve the needs of industry and government agencies for a reliable source of problem solving and data. Processing laboratories include unique blending/extrusion and molding facilities.

The Akron Polymer Testing Center serves as a laboratory for the processing and testing of rubber and plastic materials. This Center provides classrooms and laboratories for undergraduate students in the Mechanical Polymer Engineering program. The laboratories available in the Department of Polymer Engineering include and the Extrusion Laboratory, the Electromagnetic Radiation and Electronic Optics Laboratory, the Thermal and Dielectric Laboratory, the Rheological Laboratory, and the Mechanical Laboratory.

College of Fine and Applied Arts

The School of Communication features a television classroom/studio and a wide complement of supporting audio and video equipment, including graphics generators and linear and non-linear editors. Portside audio and video equipment is available for location use. There is an audio-recording facility with multitrack capability.

The school also houses radio station WZJR an on-air 7500 watt FM radio station serving Northeast Ohio. WZJRFM is operated by 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 complete desktop publishing layout, graphics, and print capabilities. The School works in cooperation with local organizations, nonprofit groups and professionals in an internship program for upper-level students.

The School of Dance, Theatre, and Arts Administration is located in the Ballet Center. The Theatre Program utilizes 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. Koibe Hall is the site of the 244-seat University Theatre, complete with support facilities. This conventional proscenium theatre is the home of productions as is the multipurpose E.J. Thomas Performing Arts Hall. Student productions are performed in Studio 28, Sandefur Theatre, and Koibe Theatre.

The School of Family and Consumer Sciences has food and nutrition laboratories, textile conservation and clothing laboratories, an interior design and drafting laboratory, a multipurpose foodservice laboratory and a graduate and professional facilities. The school maintains a variety of foodservice equipment used for laboratory instruction and training. The building contains a 244-seat University Theatre, complete with support facilities. 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 multichannel recording and sound synthesis equipment for music composition. Classrooms, studios, and 40 practice rooms (loucheal sound modules) are used for teaching, rehearsals, and practice.

The School of Social Work offers CSWE-accredited professional training to social work students by linking them to a variety of local health and human services community agencies. The school maintains a strong commitment and interaction with a network of agencies in the community serves as a laboratory for 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 practicum training area as well as a service agency for persons in the Akron community who have speech, language, or hearing problems.
Background Information

College of Nursing

The College of Nursing, housed in Mary Gladden 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 has a Student Affairs Office which provides academic advising services to prospective and current students including a rotating mode X-ray generation Center, including a computer laboratory and the Center for Nursing, which is used by faculty and students for practice and research.

The graduate program prepares nurses in the areas of education, administration, and advanced practice. Areas of specialization include child and adolescent health nursing, adult health nursing, liaison-community mental health nursing, gerontological nursing, and nursing anesthesia. 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 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-ceramic 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 $6 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 extension capability as well as a biaxial film stretcher. Molding facilities include screw injection molding capability of two machines, blow-molding, plug assisted thermoforming and compression molding with composites capability. The Institute of Polymer Engineering is the home of the EPIC-M.A. Harris 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 shear rheometry, dynamic mechanical tensile and impact testing.

The Akron Polymer Training Center, which serves as a laboratory for the processing and testing of rubber and plastic materials, was opened in June 1994. 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 polymers 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.

Library facilities are housed in three separate locations in Bierce Library on Buchtel Commons, the Science Library in Auburn Science and Engineering Center, Room 104, and Archive Services in the Polsky 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, audio-visual materials, and archival documents. The library receives nearly 5,000 magazines, journals, newspapers, and other serial publications, as well 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 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.

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Counseling Service

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

- Personal-emotional counseling deals with short-term problems such as depression, anxiety, and stress.
- Career counseling involves discovering one's interests, needs, values, aptitudes, abilities, and goals; relating these to the world of work; exploring appropriate major, subject, and career fields. Occupational information is available through reference books and computerized career guidance and information systems.
- Educational counseling involves discovering one's interests, needs, values, aptitudes, abilities, and goals; relating these to the world of work; exploring appropriate major, subject, and career fields. Occupational information is available through reference books and computerized career guidance and information systems.

Outreach and Consulting Service

The Career Center's outreach and consulting services offer assistance to the larger university community by providing programs and workshops for a wide variety of campuses. The career 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.

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. The 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.

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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 resident 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 terms 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 offices.
The Gardner

The program offers hourly flextime and half-day programs for children three to five years old and a bookstore.

The University of Akron

The program is open during the fall and spring semesters of the academic year from 7:30 a.m. and 6:00 p.m. Monday through Friday. The program offers hourly flextime 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 pre-school flextime program is offered Summer Session I. Summer session is also offered for school-aged children. This program is offered during Summer Sessions I and II from 7:00 until 6:00 p.m.

For more information call the Center for Child Development, (330) 374-5210.

GARDNER STUDENT CENTER

The Gardner Student Center, located in the center of campus, serves the students, faculty, and staff, and is one of the University’s major assets in meeting the University-wide goal of public service. This busy facility houses food service facilities; meeting rooms, lounges, Gardner Theatre, student organization offices, recreation facilities, the Communication Center, banks, Tickemaster/Film Center, and a bookstore.

- Food Areas in the Gardner Student Center offer a variety of food items. On the first level, the Chuckery features the services of a fast-food operation, a pizza & mexican shop, and an ice cream and yogurt shop. For more of a cafeteria-style offering, the Hilltop, on the second level, provides deli-style selections at Sara Lee’s, as well as full catering for banquets and meals.
- Gardner Theatre, located on the upper level, screens first- and second-run movies twice per week Tuesday through Sunday and is open to the public.
- The Game Room, located on the lower level of the Gardner Student Center, is open seven days a week for the convenience of the University family to enhance free time activity. The Game Room offers eight bowling lanes, 16 billiard tables, football, and a variety of video games. For the competitive individual, tournaments in many of these recreational activities are programmed each semester by the Game Room staff.
- The Communication Center, located in the lobby of Gardner Student Center, offers the following services: informational and referral services, copying, including color, oversized and reduced copies; binding of materials; mailing facilities for campus and U.S. mail; literature distribution; and class support files.
- The Ticketmaster/Film Center, located in the lobby of Gardner Student Center (330) 972-6684, sells tickets to most events in northern Ohio, including Blossom Music Center, The IX Center, Playhouse Square, Public Hall, and the Jacobs Field and Gund Arena. Over-night sales include tickets to campus functions, including sporting events, and to local shows. Film and film processing services are also available.
- The Bookstore at The University of Akron is operated as a service of Barnes & Noble Bookstores, Inc. of New York City. Barnes & Noble operates 300 other college bookstores. The primary purpose of the Bookstore is to make available books and supplies required for course work. In addition, the store also carries a wide range of classroom supplies, paperbacks, engineering and art supplies, greeting cards, University memorabilia, clothing, and other sundry items.

Background Information

Safety and Security

This information is provided as part of The University of Akron’s commitment to safety and security on campus and is in compliance with the Federal Crime Awareness and Campus Security Act of 1990.

The Campus

The University employs many people to keep the campus safe and secure. The Division of Administrative Services provides for student and employee safety and security through the departments of Environmental and Occupational Health and Safety, Physical Facilities, and University Police. The Division of Student Affairs is responsible for security and safety on campus for promoting residence halls, fraternities, and sororities and for teaching students about security and crime prevention.

It is the intent of the University to continue and enhance current safety and security education and awareness programs throughout the year. The purpose of these programs is to assure that the campus community frequently receives information and instruction on University crime and safety policies and procedures, drug and alcohol control and prevention.

A safe campus can be achieved only with the cooperation of the entire campus community. The University hopes students will read and become familiar with this material and be responsible for their own safety and the security of others.

University Police

Campus law enforcement is primarily the responsibility of The University of Akron Department of Police. University police provide 24-hour-day, duty protection to the campus, parking lots, residence halls, and on-campus fraternity and sorority houses. The police station 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 38 police officers are commissioned by the State of Ohio with full law enforcement authority and responsibilities (identical to the local police or sheriff). 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.

UA Police officers 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 our surrounding neighborhoods. The federal Drug Free Schools and Communities Act Amendments of 1989 require schools, colleges, and universities receiving 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 physical or psychological hazard to individuals also is prohibited.

It is the responsibility of The University of Akron to adopt and implement a drug prevention program for its students and employees. The University as an institution, and each of us as individuals, must eliminate the use of illicit drugs and alcohol that contribute to the unrecoverable loss of time, talent, and lives.

In accordance with the Drug Free Schools and Communities Act Amendment of 1989, The University of Akron established the Chemical Abuse Resource Education (C.A.R.E.) Center. The C.A.R.E. Center is funded in part by the Fund for Post
**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. Candid 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 confidentially reported by any student, faculty, or staff member. Complaints received by UA Police which fall outside the jurisdiction of University Police will be referred to the appropriate agency. The complainant will be provided a number where the complaint can be filed. Likewise, other agencies refer complaints to University Police when appropriate.

Police officers patrol parking lots 24 hours each day. UA Police also offer assistance to motorists with battery jumps, tire inflations, unlocking vehicles, and obtaining fuel for a small fee.

To request nonemergency assistance, call extension 7123. To schedule an appointment for an educational program, call extension 9008.

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 anyone walking alone on campus during the evenings. By calling extension 7263, an escort will come to the student's location and accompany him/her to any campus building or parking lot.

Employed and trained by The University of Akron Police Department, the campus patrol teams are easily identified by labeled royal blue caps or yellow t-shirts. These teams assist the University Police in patrolling campus parking lots and other campus areas and report suspicious individuals or activities directly to the police dispatch center.

**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 calling 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. It is 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 set out. Administrative buildings are generally locked at 6 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 continue 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 left in a car but locked in the 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 (UCRI) program. The annual report of property stolen on campus is reported nationwide through the National Crime Information Center. A UA's 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 Akron Crime Reports for the five calendar years. The statistics under Off-campus UCRI are crimes reported to the City of Akron Police Department that occurred at university properties off campus.

<table>
<thead>
<tr>
<th>CRIME</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>
<th>97 O.C. 97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homicides</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rapes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Robbery</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Aggravated Assault</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Burglary</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Forcible Rape</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Forcible Entry</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Attempted Forcible Rape</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Burglary Total</td>
<td>11</td>
<td>11</td>
<td>21</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>Theft</td>
<td>59</td>
<td>60</td>
<td>64</td>
<td>71</td>
<td>77</td>
</tr>
<tr>
<td>Under $50</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>$50 to $999</td>
<td>12</td>
<td>12</td>
<td>13</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>$100 to $499</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>$500 to $4,999</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>$5,000 to $24,999</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Motor Vehicle Theft</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
</tbody>
</table>

**NOTE:** Off-campus statistics exclude any activity on any of the University properties identified by the Uniform Crime Reporting System for the five calendar years.

<table>
<thead>
<tr>
<th>CRIME</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>
<th>97 O.C. 97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquor Law Violations</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Drug Abuse Violations</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Weapons Violations</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

**EMERGENCY PHONE NUMBERS**

Call extension 911 on campus to reach UA police immediately.

<table>
<thead>
<tr>
<th>Call Extension</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>7123</td>
</tr>
<tr>
<td>Campus Patrol</td>
<td>7263</td>
</tr>
<tr>
<td>Nonemergency</td>
<td>8123</td>
</tr>
<tr>
<td>Environmental</td>
<td>6866</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>6866</td>
</tr>
<tr>
<td>Fire</td>
<td>911</td>
</tr>
<tr>
<td>EMS/Medical</td>
<td>911</td>
</tr>
<tr>
<td>Electrical/Plumbing</td>
<td>7215</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>8123</td>
</tr>
<tr>
<td>Closing</td>
<td>7111</td>
</tr>
</tbody>
</table>

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 calling from all campus extensions.
Graduate School

Charles M. Dye, Ph.D., Dean
Lathardus Goggins, Ph.D., Associate Dean
Doli O. Markovich, B.A., Assistant to the Dean
Karen L. Caldwell, Coordinator of Graduate Financial Assistance
Heather A. Blake, B.S., M.S., Secretary to the Dean
Brenda J. Henry, Admissions Coordinator
Cheryl Garcia, B.A., J.D., Degree Completion Coordinator
Kevin Tondra, B.A., M.A., Clerical Specialist

OBJECTIVES

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

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

Nature of Graduate Education

The Graduate School provides a qualified student with education which may be required for the full development of scholarly and professional capacities, subject to the criteria developed by graduate departments. Graduate education involves the extension of knowledge. However, it is by no means a mere continuation of undergraduate study. At its best, graduate education is characterized by an able and enthusiastic advanced student who joins faculty leaders to form a community of scholars dedicated to the common pursuit of truth. Critical analysis, independence of thought, originality of method, intensity of purpose, freedom from bias, thoroughness of inquiry, keenness of perception and originality of method 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 1862. The College of Education awarded its first master's degree in 1924, the College of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1979. The Department of Communicative Disorders (previously the Department of Speech), now housed in the College of Fine and Applied Arts, was formerly a part of the Buckeye College of Arts and Sciences and conferred a master's degree in 1963. The first earned doctoral degrees were conferred in 1969. Professor Charles Bulger was appointed first graduate dean in 1933, and he continued in that capacity until 1950. Professor Ernest H. Cherrington, Jr. served as director of graduate studies from 1955 to 1960 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brittain was appointed dean of Graduate Studies and Research in 1967 and succeeded in 1968 by Dr. Ed L. Lively. Dr. Claibourn E. Griffin succeeded Dr. Lively in 1978 and served in that capacity until 1977. Dr. Joseph M. Walton, associate dean of Graduate Studies and Research, was administrative head of the Graduate School during the 1977-1978 academic year. Dr. Alan H. Gent was appointed dean of Graduate Studies and Research in 1978 and served in that capacity until 1990. Dr. Joseph M. Walton 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 1995 and became the dean of the Graduate School in 1996.

The administrative functions of the Graduate School include establishment of suitable entrance requirements, admission of qualified students, maintenance of high-quality instruction, administration of credit requirements 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 courses 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, educational counseling, engineering (biomedical, chemical, civil, electrical, engineering applied mathematics, mechanical, and polymer) guidance and counseling, history, literary 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 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, biomedical engineering, business administration (accounting, entrepreneurship, finance, health services administration, international business, management, marketing, materials management, and quality management); JD/LLMBA joint program; chemical engineering, chemistry, civil engineering, communication, counseling (classroom guidance foreadness, community counseling, elementary school counseling, marriage and family therapy, secondary school counseling), counseling psychology, economics (labor and industrial relations), educational administration (administrative specialists, assistant superintendent, elementary school administration, general administration, higher educational administration, principal administration), educational foundations (computer based education, educational psychology, historical foundations, instructional media and technology, sociopsychological foundations), electrical engineering, elementary education, engineering (concrete, civil, electrical, engineering applied mathematics), environmental engineering, instrumental music, language (Spanish), music (accompanying, composition, education, history/literature, performance, theory), nursing (RM/MSN), nutrition/dietetics, outdoor education, physical education (adapted physical education, athletic training for sports medicine, exercise physiologist/fitness), physics, political science, polymer engineering, psychology, psychology (applied cognitive aging, counseling psychology, cognitive psychology, counseling psychology, economics (labor and industrial relations), educational administration, educational foundations, educational psychology, historical foundations, instructional media and technology, sociopsychological foundations, electrical engineering, social work, sociology, special education, speech/language pathology, statistics, taxation JD/LLMBA 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 superintendent.

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

Graduate Faculty and the Graduate Council*

The graduate faculty is comprised of 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 presently includes four members from the College of Business Administration; two members from the College of Education, four members from the College of Law, and four members from the College of Arts and Sciences, four 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 Student Council. Members serve three-year terms and may not succeed themselves. The dean of the Graduate School serves as chair of both the graduate faculty and the Graduate Council.

The functions of the council include determination of graduate programs and course offerings, recommendation of policy for all phases of graduate education, recommendation of appointments 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 adviser.

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.
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 an 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. No 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 counseling psychology, have earlier deadlines. Applicants should contact the department of interest for any 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 directly to the Graduate School. The applicant is responsible for seeing that the above conditions are met by the deadlines for filing applications.

All records, including academic records from other institutions, become part of the official file and cannot be returned for any purpose. An offer of admission will normally be made to the student who meets admission requirements. However, it must be recognized that staff, faculty, and other resources are limited, so the number of students accepted will vary among departments and from term to term. An accepted applicant may begin graduate work in the fall, spring or summer semester. The offer of admission is void, however, if the applicant does not register for courses within two years from the time of admission. An individual whose offer of admission has lapsed must submit a new application to be reconsidered.

The student is admitted only for the purpose or objective stated on the application for admission. A new request for admission must be filed if the original objective has been attained or if 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 non-accredited American college or university, if otherwise qualified, is normally required to complete at least 10 semester credits of postbaccalaureate work at a 3.00 level before being considered for admission to the Graduate School. The accreditation status of the school at the time of the student's graduation shall apply. A student should consult with the department head in the major field to develop a postbaccalaureate program.

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 arranged through the Graduate School:

- Full Admission may be granted to any applicant who desires to pursue a graduate degree and has a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better or 3.00 for the last two years (16 semester credits or equivalent), or holds an advanced degree from an accredited college or university in or appropriate to the intended field, or holds a baccalaureate or master's degree from a foreign college or university with first-class standing or its equivalent, plus satisfactory evidence of competence in English. Full admission may also be granted to applicants to the College of Business Administration who meet the college's admission requirements.

- Provisional Admission may be granted to a person who has not met all of the requirements for full admission, 2.74-2.5 overall GPA or 2.75 over the last two years. The 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 to a graduate degree program, but only when all requirements for full admission have been met.

- Deleted Admission may be granted if the applicant's record does not meet provisional admission standards. An admission status is granted if the applicant meets all of the requirements for provisional admission but is subject to the approval of the department, department head and Graduate School.

- 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 the applicant, and the student is not permitted to take part in any other program.

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

- Undergraduate status is for an undergraduate student at the University who may be granted permission to take one or more graduate-level courses if all of the following conditions are met.

  - senior standing;
  - overall grade-point average of 2.75 or better in the major field, special justification will be required;
  - written approval is given by the instructor of the course and the student's advisor.

These courses may later be applied to a degree program if not used to satisfy baccalaureate degree requirements. The maximum number of graduate credits that may be taken by an undergraduate and applied toward a graduate degree is 12.

- 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 special use of facilities, within limits of institutional and graduate programs, tuition and fees shall be collected if allowed under sponsoring contract for the courses the fellow may choose to take;

  - a Special is a person holding an earned doctorate who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, application fee (for new student) and an official transcript from the institution awarding the doctoral. This student will be treated as a regular student subject to registration fees and program degree requirements;

  - a Guest is a person holding an earned doctorate who desires to attend courses and seminars relevant to individual work or interest without registering or receiving grades. 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

The University of Akron
any course or seminar provided space is available. Normally, space and facilities for research cannot be provided for a postdoctoral guest but special requests will be considered. Requests should be submitted, in writing, to the dean of the Graduate School who will review such requests with the appropriate college dean and department head.

Course Load
A full load of course work at the graduate level is normally 9-15 semester credits including audit. 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 lies with the student, who should consult with the assigned adviser in preparing a program of courses and/or research. A schedule of courses, hours, class location and registration procedures is obtained 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. These assistantships provide stipends of $6,000 to $18,000 plus remission of tuition and fees and are available in all departments with graduate degree programs. A graduate assistant renders service to the University through teaching, research and other duties. For information and/or application, contact the head of the department. Tuition scholarships are also available on a limited basis in some departments.

A number of fellowships sponsored by industry and government agencies are available in some departments. Stipends range up to $30,000. For information, contact the head of the department.

International Students
The University of Akron welcomes international students and seeks to make their educational experience pleasant and meaningful. Each year, approximately 850 international students from 88 countries pursue studies and research at The University of Akron.

Admission
International students may apply for admission in the Fall or Spring semester of the University’s two summer sessions. Students should submit their applications at least five months in advance of the date they wish to begin their studies. Graduate students applying for assistantships should submit applications nine months before the term begins for best consideration. The following procedures should be followed:

- Obtain an international student application from the Office of International Programs, The University of Akron, Polkky Building, Room 403, Akron, OH 44325-3106, telephone (330) 972-6349, fax (330) 972-8604 (World Wide Web address: http://www.uakron.edu/osp). electronic mail address: international@uakron.edu.

- Return the completed application and the one-time nonrefundable fee of $50 with the following documentation:
  - An official transcript and degree from all secondary institutions and universities attended previously. Original records in languages other than English must be accompanied by exact English translations and certified by the school, U.S. consulate or other legal certifying authority.
  - Proof of English language proficiency. The University requires each student for whom English is not the native language to take the Test of English as a Foreign Language (TOEFL). This test is administered in major cities throughout the world. Applications may be obtained from binational agencies, United States Information Service (USIS) offices, or from the Educational Testing Service, Princeton, NJ 08540. Graduate applicants must achieve 550 or greater. Exceptions include the departments of English and History (380), Urban Studies Ph.D. (670) and Biomedical Engineering (690).

- Admission may be offered to students who are academically acceptable but who have not reached the level of English proficiency required for full admission, such students must attend intensive English instruction until they have attained the required level of English proficiency for full-time academic study.

- Proof of adequate financial support. An international student should submit the Declaration and Certification of Finances (DCF) and an original statement from the bank showing availability of sufficient funds to cover the cost of the first year of study. The Office of International Programs will prepare the Certificate of Eligibility (I-20A) or IAP-68 upon receipt of adequate financial support and admission to the University.

Costs, Financial Aid, and Medical Insurance
To cover tuition and living expenses for the 1998-99 academic year, international graduate students holding F-1 visas will need approximately $17,029. Additional costs for J-1 visa holders and student's dependents are indicated on the DCF. Graduate students may request financial aid through fellowships and graduate assistantships. A graduate student interested in applying for aid should request the necessary forms when requesting the admission application.

The University of Akron requires that all international students carry medical insurance which meets minimum established requirements. Such coverage must be effective throughout the students’ studies at The University of Akron. International students will not be permitted to register without proof of such coverage.

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 list of Spoken English (ITE). Revised 1999. 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 TOEFL 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; the other specifies the subject matter of the particular course. For instance:

3300-501 Middle English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. The third, 501 refers to the Department of English. The second set of digits (507) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is taught and the point at which the student is ready to take the course.

An explanation of the numbering system follows:

- 3000-699 Master's-level courses
- 600-799 J.D.-level courses
- 700-899 Doctoral-level courses

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

Grades
A student admitted to graduate study under any status at the University is expected to maintain a minimum 3.00 grade-point average (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+", "C", and "C-" grades may be counted toward the degree. Grades of "D+", "D", and "D-" are treated as "F" 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>Quality Points</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<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>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>D-</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.0</td>
<td>Failure</td>
</tr>
<tr>
<td>CR</td>
<td>0.0</td>
<td>Credit</td>
</tr>
<tr>
<td>NC</td>
<td>0.0</td>
<td>No credit</td>
</tr>
<tr>
<td>AUD</td>
<td>0.0</td>
<td>Audit</td>
</tr>
</tbody>
</table>
The following grades may also appear on the term grade reports or on the official academic record. There are no grade points associated with these grades.

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

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

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

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

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

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

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

Repeating Courses

Any graduate course may be repeated once for credit. However, the degree requirements shall be increased thereby the credit hour value of each course repeated. The hours and grades of both the original and the repeated sections 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 enrollment fee and may be expected to do all the work prescribed for students taking the course for credit except that of taking the examination. Any faculty member may initiate withdrawal for a student not meeting these expectations.

Thesis and Dissertation Credits

Course number 699 will only be used for courses which indicate credit is being given for a master's thesis. 899 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/no credit grading)-A course that normally involves guest, faculty or graduate students as speakers. The intent of the course is to introduce a broad range of topics using resource personnel. Normally, assignments are limited to class participation.

Seminar (letter grades)-A course that normally involves group discussion or other activities based on assigned material. Grades are awarded based on a combination of assignments, tests and class participation.

Workshop (credit/no credit 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. The accumulation 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. A consultation with the college or department, as appropriate, the dean of the Graduate School will dismiss full-time students who do not maintain good academic standing within two consecutive semesters (including summers) and part-time students who do not return to good academic standing within the attempting of 15 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 constitutes 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 semester credits of "C-" or below. The accumulation of six semester credits of "F" will result in mandatory dismissal.

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

Grades of "D+", "D" and "D-' are treated as "F" grades. (See previous section on Grades.)

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 advance of completing degree requirements. Applications are filed with the Graduation 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 necessary for 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 Student Code of Conduct available in the Office of Student Conduct, Gardner Student Center 104, 330-972-7021.

The University of Akron considers academic integrity 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 as the student's original work that is entirely or partly the work of another person.
- Failure to properly cite references from published or unpublished works or printed/published materials.
- Unauthorized copying of an assignment in computer programming, or the unauthorized examination or view of the computer, specifically during examinations.
- Possession and/or unauthorized use of test 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 procedures prescribed by the professor to protect the integrity of the examination.
- Cooperation with a person involved in academic misconduct.

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

A further discussion of these procedures and other avenues for recourse can be found in the Grievance Procedures for Graduate Students available at the Graduate School, The Polsky Building 469, 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 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-sponsored 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 subject to tax liability under Section 5347.02 of the Revised Code.

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 school or private medical or dental college which receives a direct subsidy from the state of Ohio.

4. For the purpose of determining residency for tuition surcharge purposes at Ohio’s state-assisted colleges and universities, “domicile” is a person’s permanent place of abode, there must exist a demonstrated intent to live permanently in Ohio, and a legal ability under federal and state law to reside permanently in the state. For the purpose of this policy, only one (1) domicile may be maintained at a given time.

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

C. Residency for subsidy and tuition surcharge purposes

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

i. 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.

ii. A person who has been a resident of Ohio for the purpose of this rule for at least 12 consecutive months immediately preceding his or her enrollment in an institution of higher education and who is not receiving, and has not directly or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.

iii. A dependent child of a parent or legal guardian or the spouse of a person who, as of the first day of a term enrollment, has accepted full-time self-sustaining employment and established domicile in the state of Ohio for reasons other than gaining the benefit of favorable tuition rates. Documentation of full-time employment and domicile shall include both of the following documents:

a. A sworn statement from the employer or the employer’s representative on the letterhead of the employer or the employer’s representative certifying that parent or spouse of the student is employed full-time in Ohio.

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

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

1. Criteria evidencing residency:

a. if a person qualifies to vote in Ohio;

b. if a person is qualified to receive state welfare benefits;

c. if a person is an Ohio driver’s license and/or motor vehicle registration.

2. Criteria evidencing lack of residency:

a. if a person is a resident or intends to be 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 as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.

5. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

F. Procedures

1. A dependent person classified as a resident of Ohio for these purposes (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 reclassify 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 in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student’s actual financial support.

5. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.

6. Any institution of higher education charged with enrolling 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 1988-89 and are subject to change without notice. Application Fee (this fee is not refundable under any circumstances)

Domestic $25
International $50

Tuition Fees
Resident student per credit $178.10
Nonresident student per credit $303.10
(same fees apply when auditing classes)

General Fee
12 credits per semester $6.65 per credit
13 credits and over per semester $81.65 per semester

Administration Fee*
Graduate, transient students $11 per semester

Parking Permit Fee
Per semester, Fall and Spring $60
Summer Session (one permit Summer I, II, Intercession) $32
Workshop participants $2 per day

Other Fees
Thesis and binding
(/payable at time of application for degree)
Binding per volume $9.50

Microfilming (Ph.D., Ed.D. only)
(/payable at time of application for degree)
$60.00

Copyright Fee
(/payable at time of application for degree /copyright is sought)
Graduate Student's Foreign Language Reading Proficiency Exam $50
Late Graduation Application Fee $10

Late Registration Fee $25

* Administrator fee replaces those fees currently charged for schedule changes, transcripts, and for application for graduation.

Course and Materials: Computer 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 fee.

Course Number Course Title Credits Course Fee
3350:568 Advanced Cartography 3 $10
3350:549 Advanced Remote Sensing 3 $10
3350:656 Spatial Analysis 3 $10
3350:105 Soil and Water Field Studies 3 $10
3350:657 Methods of Planning Analysis I 3 $10
3350:656 Methods of Planning Analysis II 3 $10
3350:660 Advanced Spatial Analysis 3 $10
3370:505 Archaeological Geology 3 $25
3370:510 Regional Geology of North America 3 $25
3370:650 Glacial Geology 3 $25
3370:521 Coastal Geology 3 $25
3370:656 Principles of Sedimentary Basin Analysis 3 $25
3370:653 Optical Micrometry and Introductory Petrography 3 $25
3370:653 Advanced Petrography 3 $25
3370:656 Reservoir Geology 3 $25
3370:653 Cell Geology 3 $25
3370:653 Economic Geology 3 $25
3370:656 Fundamentals of Geophysics 3 $25
3370:656 Exploration Geophysics 3 $16
3370:653 Borehole Geophysics 3 $15
3370:653 Advanced Structural Geology 3 $25
3370:652 Advanced Petrology 3 $25
3370:656 Mineralogy 3 $25
3370:656 Geology 3 $25
3370:656 Geochemistry 3 $25
3370:656 Stable Isotope Geochemistry 3 $20
3370:656 Groundwater Hydrology 3 $25
3370:656 Analytical Methods in Geology 3 $25
3370:656 Geoscience Information Acquisition and Management 1 $5
3370:656 Remote Sensing in Geology 3 $15
3370:656 Applied Quantitative Geomorphology 3 $15
3370:655 Carbonate Petrology 3 $15
3370:653 Sialic Sedimentary Geology 3 $25
3370:653 Rocks and Minerals 3 $15
3370:653 Igneous Petrology 3 $15
3370:653 Metamorphic Petrology 3 $15
3370:653 Clay Minerals 3 $15
3370:653 Oil Micr0scopy 3 $75
3370:656 Nuclear Geology 3 $75
3370:656 Geostatistics 3 $15
3370:656 Global Tectonics 3 $15
3370:656 Geologic Record of Past Global Change 3 $15
3370:656 Advanced Ground Water Hydrology 3 $25
3370:656 Geophysical Methods of Prospecting 3 $15
3370:656 Urban Geology 3 $15
3450:627 Introduction to Numerical Analysis 3 $25
3450:628 Numerical Linear Algebra 3 $25
3450:629 Numerical Solution of Ordinary Differential Equations 3 $25
3450:630 Numerical Solution of Partial Differential Equations 3 $25
3450:635 Systems of Ordinary Differential Equations 3 $25
3450:627 Advanced Numerical Analysis I 3 $25
3450:628 Advanced Numerical Analysis II 3 $25
3450:629 Matrix Computations I 3 $25
3450:630 Matrix Computations II 3 $25
3450:635 Optimization 3 $25
3450:650 Fundamentals of Data Structures 3 $25
3450:656 Introduction to C and UNIX 3 $25
3450:656 UNIX System Programming 3 $25
3450:656 Theory of Programming Languages 3 $25
3450:656 Analysis of Algorithms 3 $25
3450:656 Compiler Design 3 $25
3450:656 Data Communication and Computer Networks 3 $25
3450:656 Computer Graphics 3 $25
3450:656 Artificial Intelligence and Heuristic Programming 3 $25
3450:656 Computer Organization 3 $25
3450:656 Microprocessor Programming and Interfacing 3 $25
3450:656 Operating Systems 3 $25
3450:656 Advanced Computer Architecture 3 $25
3450:656 Advanced Automata and Complexity Theory 3 $25
3450:656 Advanced Compiler Design and Construction 3 $25
3450:656 Computer Networks and Distributed Processing 3 $25
3450:656 Advanced Computer Graphics 3 $25
3450:656 Visualization 3 $25
3450:656 Expert Systems 3 $25
3450:656 Advanced Computer Architecture 3 $25
3450:656 Advanced Automata and Complexity 3 $25
3450:656 Advanced Database Management 3 $25
3450:656 Parallel Processing 3 $25
3450:656 Software Engineering 3 $25
3450:656 Applied Statistics I 4 $10
3450:656 Applied Statistics II 4 $10
3450:656 Statistical Computer Applications 4 $15
3450:656 Experimental Design 3 $10
3450:656 Regression 3 $10
3450:656 Nonparametric Statistics Methods 3 $10
3450:656 Factor Analysis 3 $10
3450:656 Multivariate Statistical Models 3 $10
3450:656 Response Surface Methodology 3 $10
3450:656 Advanced Laboratory I 2 $25
3450:656 Advanced Laboratory II 2 $25
3450:656 Digital Data Acquisition 3 $20
3450:656 Survey Research Methods 3 $10
3450:656 Methods of Policy Analysis 3 $10

Buchtel College of Arts and Sciences

3100:500 Food Plants 2 $10
3100:501 Tropical Fruit Biology 4 $35
3100:502 Conservation of Biological Resources 4 $5
3100:504 Freshwater Ecology 3 $15
3100:506 Aquatic Ecology 3 $15
3100:503 Palynologic Paleobotany 4 $10
3100:535 Virology 4 $10
3100:540 Immunology 4 $10
3100:541 Mycology 4 $15
3100:542 Plant Development 4 $15
3100:543 Plant Anatomy 4 $15
3100:543 Physiology 4 $15
3100:545 Plant Physiology 4 $15
3100:547 Plant Physiological Botany 3 $15
3100:548 Plant Physiology 4 $15
3100:551 General Entomology 4 $10
3100:553 Invertebrate Zoology 4 $25
3100:554 Parasitology 4 $15
3100:556 Ornithology 4 $15
3100:558 Vertebrate Zoology 4 $10
3100:561 Human Physiology 4 $25
3100:562 Human Physiology 4 $25
3100:564 General and Comparative Physiology 4 $25
3100:566 Vertebrate Embryology 4 $30
3100:567 Comparative Vertebrate Morphology 4 $25
3100:571 Physiological Genetics 4 $25
3100:575 Cell Physiology 4 $60
3100:625 Basic DNA Techniques 3 $50
3100:626 Experiential Techniques DNA 3 $50
3100:628 Experiential Techniques DNA 3 $50
3100:629 Experiential Techniques DNA 3 $50
3100:635 Animal Cell Culture 4 $50
3100:656 Principles of Transmission Electron Microscopy 3 $20
3100:656 Principles of Scanning Electron Microscopy 3 $20
3100:656 Biomedical Laboratory 3 $25
3100:656 Comparative Vertebrate Morphology 4 $25
3250:506 Econometric Methods and Applications 3 $10
3250:506 Statistics for Economics 3 $10
3250:506 Econometrics 3 $10
3250:506 Seminar Research Methods 3 $10
3350:500 Computer Applications in Geography and Planning 3 $25
3350:500 Geographic Information Systems 3 $10
3350:527 Advanced Geographic Information Systems 3 $10
3350:500 Urban Land Use Analysis 3 $10
3350:540 Principles of Cartography 3 $10
3350:540 Thematic Cartography 3 $10
3350:540 Applications in Cartography and GIS 3 $10
3350:540 Introduction to Remote Sensing 3 $10
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 followup installments at 20 percent, 25 percent and 25 percent respectively. Applications received after the semester fee deadline and up to the first day of classes will require a 50 percent down payment with two followup 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 when the student registers. 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 through various graduate degree-granting academic units. Graduate assistantships and other graduate awards are distributed to the colleges through the Graduate School; therefore, a separate application is required. For further information, contact the Graduate School, Pol­sky Building, room 469, (330) 972-7663.

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.

Amount of Refund

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

- **In full**
  - if the student requests official withdrawal after 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%

- **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. Examples: 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%

- Refunds for course sections which have not been scheduled consistent with either the standard 15-week fall/spring semester or the five-week summer term scheduling pattern will be handled on a pro rate 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.

- Refunds will be determined as of the date of formal withdrawal unless proof is submitted that circumstances beyond control of the student, e.g., hospital confinement, prevented the filing of the formal withdrawal earlier, in which case the refund will be determined as of said circumstance. The student assumes responsibility for filing for a refund.

- Refunds will be mailed as soon as possible. Refund checks are subject to deduction for any amount owed to The University of Akron by the student.

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 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:

- Instructional fee (tuition) and nonresident surcharge.
- General fee.
- Course materials and computing fee.
- Student parking fee (only if permit is returned).
- Student teaching fee.
- Laboratory breakage and late service deposit.
- Residence hall fees (note: subject to special policy).
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 post-baccalaureate 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. Such credits must be relevant to the degree program, recommended by the student's adviser, and approved by the dean of the Graduate School.

It should be noted that the requirements listed by department elsewhere in this section refer to the minimum necessary for a degree. It is entirely within the prerogative of the department to assign additional credits of coursework or other requirements in the interest of graduating a fully qualified student.

No graduate credit may be received for courses taken by examination or for 500-numbered courses previously taken at the 400 number coursework level as an undergraduate without advanced approval from the dean of the Graduate School. "Repeat for change of grade" is not available at the graduate level.

Transfer Credits
Up to one-third of the total credits required for a master's degree may be transferred from an accredited college or university. Departments and colleges may set more restrictive limits. All transfer credit must be at the "A" or "B" level in graduate courses. The credits must be relevant to the student's program as determined by the student's academic department, and must fall within the five-year time limit to complete degree requirements.

Credits transferred may come from a prior degree. Up to one-third of credits from a prior or concurrent graduate degree at The University of Akron may be used to satisfy the requirements of a concurrent or subsequent master's degree. A University of Akron student who seeks to enroll in courses elsewhere for transfer credit must have prior approval.

A student seeking to 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.

Optional Department Requirements
Each department may set special requirements with regard to entrance examinations, qualifying examinations, foreign language, required courses and thesis. Details are available from the head of the major department.

Advancement to Candidacy
A student should apply for advancement to candidacy after completion of one-half of the credits required for the degree in his or her program. A student must be 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.

Graduation
To be cleared for graduation, a candidate must have completed coursework with a minimum average of 3.00; been advanced to candidacy; filed an application for graduation with the registrar; paid all applicable fees; and met any other department and University requirements applicable.

If a thesis is required, two copies, properly prepared, are due in the Graduate School at least three weeks prior to commencement. These copies must be signed by the adviser, faculty reader, department head, and college dean. A thesis is required for graduation of a candidate from a University doctoral degree program or assures attainment of the degree. A formal doctoral degree program consists of a combination of courses, seminars and individual study and research that meet the minimum requirements of the Graduate School and those of the committee for each individual student.

DOCTORAL DEGREE REQUIREMENTS*

Admission
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 doctoral program consists of a combination of courses, seminars and individual study and research that meet the minimum requirements of the Graduate School and those of the committee for each individual student.

Residence Requirements
A doctoral student must meet the degree requirements of the Graduate School and department by full-time study or a combination of full- and part-time study.

The minimum residence requirement for a doctoral candidate in all programs is at least two consecutive semesters of full-time study and involvement in departmental activities. Full-time study is defined as 9-15 semester credits, except for graduate teaching and teaching assistants for whom full-time study is specified by the assistantship agreements. The summer sessions may count as one semester, provided that the candidate is enrolled for a minimum of 10 consecutive weeks of full-time study and for a minimum of six semester credits per five-week session. Individual programs may have additional residence requirements such as credits or courses to be completed, prior time to fulfill the residence requirement, and the extent to which a resident may hold outside employment.

Before a doctoral student begins residency, the student's advisor and the student shall prepare a statement indicating the manner in which the residence requirement will be met. Any special conditions must be detailed and will require the approval of the student's committee, the department faculty member approved to direct doctoral dissertations, the collegiate dean and the dean of the Graduate School.

*The doctoral program in engineering is an interdisciplinary program offered on a collegiate basis. In the descriptions of University doctoral degree requirements on the following pages, citations of department or departmental faculty should be interpreted as citations of college or collegiate faculty with specific reference to the doctoral program in engineering.
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 60 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 scholarship in some 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 workshop credits may be applied to a doctoral degree. Such credits must be relevant to the degree program, recommended by the student's adviser and approved by the dean of 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.

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 four-year limit 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 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 as 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 requirement.

Optional Department Requirements

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

Advancement to Candidacy

A student should apply for advancement to candidacy after completion of one-half of the credits required for the degree in his or her program. A student must be 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 exposition must be demonstrated by the preparation of a dissertation on some topic related to the major subject. It should represent a significant contribution to knowledge, be presented in a scholarly manner, reveal the candidate's ability to do independent research and indicate experience in research techniques.

A doctoral dissertation committee supervises and approves the dissertation and administers an oral examination upon the dissertation and related areas of study. This examination is open to the graduate faculty. The dissertation and oral examination must be approved by the committee before the dissertation is submitted to the Graduate School. Two copies of the dissertation are due in the Graduate School at least 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 these instructions.

Graduation

To be cleared for graduation, a candidate must have completed the academic program with a grade-point average of at least 3.00; been advanced to candidacy; submitted an approved dissertation and passed an oral examination; filed an application for graduation with the registrar; paid all applicable fees; and met any other department and University requirements.
Counseling
Statistics 1601, 6021
Thesis credits (minimum)

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

The commitment to humanity—that loyal devotion to the continuing human existence, to understand themselves in the natural world and in a particular civilization or society. No course or combination of courses can ensure such understanding, there is no schooling that can guarantee wisdom. Therefore, the college requires the student to study ideas and experiences that are the subject matter of a variety of disciplines:

- the nature of civility—those actions whereby virtue, the advancement of society, and wise and humane government are encouraged;
- the advancement of learning—that substantial knowledge discovered and cultivated by critical curiosity, tested by experimentation, propagated by instruction and capable of affecting lives so that all may in a free society exercise responsible liberty. The most enduring contribution which the college can make is to help individuals acquire the skill, motivation and breadth of knowledge to continue their intellectual development throughout their lives.

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

Buchtel College is 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 curriculum reflects the interdepartmental blend of the Department of Psychology, 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 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.

The internship site must be approved in advance by the Department of Psychology.

Students must maintain a 3.50 GPA in their content courses each year in the Department of Psychology.

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

- Fulfill admission requirements of the School.

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, and 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 9 hours of 500-level courses in the student's secondary fields will be counted;
  - demonstration of competency in four fields of study selected from the following areas: ancient, medieval, modern Europe to 1750, modern Europe since 1750, England and the Empire, United States 1607 to present, Latin America, Far East, and history of science. Further, students will be required to sit for examinations in three fields chosen from the above list. They will be examined in a fourth field as well, a specialty or subtopic falling within one of the general fields listed above. The fourth field will be designed by the student and the student's adviser, in consultation with the student's doctoral committee and the Graduate Committee of the History Department. The student's dissertation will fall within this fourth field;
  - satisfactory performance in written and oral comprehensive examinations;
  - defense of the dissertation in an oral examination.

- 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 two 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 including 30 graduate credits;
  - completion of master's core courses or equivalent;
  - attainment of a graduate grade-point average (GPA) of 3.25;
  - completion of Graduate Record Examination Aptitude and Advanced Psychology Test;
  - 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 adviser and subject to approval by the industrial/organizational or applied cognitive aging committee;
- 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 career plans of the student and upon the academic and/or scientific requirements of the dissertation.

Doctor of Philosophy in Sociology

Doctor of Philosophy in Sociology Akron-Kent Joint Ph.D. Program

The University of Akron and Kent State University departments of sociology offer a joint program leading to the Ph.D. degree. Faculty and student engaged in the joint doctoral program are for all intents and purposes involved in a single graduate program. Course work is offered at both campuses and faculty and students interchange freely.

Admission to the Program

A student may apply with a completed master's degree or equivalent or after at least one year of full-time coursework or equivalent (18 credits) in the sociology master of arts program at The University of Akron. The coursework must include the master of arts core sequence. Scores from 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 the two following courses, such courses not to count toward meeting specialization requirements:
  - 3850:631 Social Psychology
  - 3850:645 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 doctoral-level courses in methods/statistics. These courses are to be selected from the predetermined group of courses (see the department's graduate student handbook);
- Complete a specialty of at least 15 credits.
- Complete a minimum total of 30 credits in coursework.
- Pass the doctoral comprehensive examination. This examination is given in the specialty area and will include an evaluation of methods, theory, and statistics as relevant to the specialty area.
- Full residency requirement of the Graduate School.
- Complete foreign language requirement by one of four sequences as detailed in the department's graduate student handbook:
  - foreign language;
  - computer science;
  - statistics;
  - philosophy.
- Register for a minimum of 30 credits of dissertation credit, complete a dissertation and successfully defend it in an oral examination.

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

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

- Completion of the M.A. core coursework;
- Completion of a research practicum (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 (600 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 university and professional appointments.

**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 normally not 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 applicant's recent performance and abilities.
- A sample of the student's written work. Generally, this 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, and describing the student's major area of interest shared by the student and the faculty.
- 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:

- **3980:600** Basic Analytical Research
- **3980:601** Advanced Research and Statistical Methods
- **3980:611** Introduction to the Profession of Public Administration
- **3350:630** Introduction to Planning Theory
- **3980:640** 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 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 credits (four courses). 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.
- Must have at least one semester of organic chemistry.
- 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**

This 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.
- 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) – 16 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. probably will be a terminal degree and who do not need research experience. The program is open only to applicants possessing a teaching certificate or those coregistering with 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.

Required Courses for both options:

- 3250:602 Macroeconomic Analysis I 3
- 3259:611 Microeconomic Theory I 3
- 3250:620 Applications of Mathematical Models to Economics* 3
- 3250:626 Statistics for Econometrics* 3

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

Exceptional departures from 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.

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

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**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).

Required Courses for both Options:

- 3300:506 Chaucer 3
- 3300:570 History of the English Language 3
- 3300:670 Modern Linguistics 3
- 3300:615 Shakespearean Drama 3
- 3300:691 Bibliography and Literary Research 3
- 3350:687 History of the English Language 3

Alternate Track in Composition
Alternate Track in Composition is intended for students interested in the teaching of English in secondary schools and in the teaching of writing and literature at two-year and four-year colleges. The degree is also appropriate for those planning to enter a doctoral program in composition and rhetoric. The program does not lead to state certification for teaching; students should consult the Department of Secondary Education for requirements for state certification to teach in the public schools.

**Thesis Option**
A minimum of 33 credits is required (27 credits of coursework and 6 hours of thesis). Of the 27 credits of coursework, 18 must be in composition studies (including courses in composition, linguistics, and rhetoric) and 9 credits in literature or literary theory (exclusive of individual reading). Of the 27 credits of coursework, 15 must be at the 600 level.

**Nonthesis Option**
A minimum of 36 credits is required, only 6 of which may be individual reading. At least 24 credits required in composition studies (including courses in composition, linguistics, and rhetoric) and 9 credits in literature or literary theory (exclusive of individual reading). Of the 36 credits of coursework, 21 must be at the 600 level.

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**Geography and Planning**

**Master of Arts in Geography**

**Nonthesis Option**
- A minimum of 39 graduate credit hours, to include no more than 6 credits of 3350:698. At least 12 credit hours must be taken at the 600 level, excluding 3350:698 and 699.
- Core Requirements – 12 credit hours (4 courses)
  - 3350:591 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:596 Field Research Methods
  - 3350:687 History of Geographic Thought
- Seminars: Completion of research papers in at least 2 courses from the following (6 hours):
  - 3350:600 SEM (tag)
  - 3350:651 SEM (tag)
  - 3350:602 SEM (tag)
- Electives – 21 credit hours

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

**Thesis Option**
- A minimum of 36 graduate credit hours, to include no more than 6 credits of 3350:698. At least 12 credit hours must be taken at the 600 level, excluding 3350:698 and 699.
- Core Requirements (12 credit hours)
  - 3350:591 Research Methods in Geography and Planning
  - 3350:593 Spatial Analysis
  - 3350:596 Field Research Methods
  - 3350:687 History of Geographic Thought
- Thesis – 9 credit hours
- Electives – 15 credit hours, at least 3 credits of which must be from the following:
  - 3350:600 SEM (tag)
  - 3350:651 SEM (tag)
  - 3350:602 SEM (tag)

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

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**Required Courses for Both Options**

- 3300:670 Modern Linguistics 3
- 3300:673 Theories of Composition 3
- 3320:614 Research Methodologies in Composition 3
- 3320:616 Theory and Teaching of Basic Composition 3

**Other Available Courses for Both Options**

**Composition and Rhetoric:**
- 3320:675 Theory of Rhetoric 2
- 3320:679 Scholarly Writing 3
- 3320:688 Seminar Reading Theory 3

**Linguistics:**
- 3320:670 History of the English Language 3
- 3320:671 U.S. Dialects: Black and White 3
- 3320:689 Grammatical Structures of Modern English 3
- 3320:683 Sociolinguistics 3
- 3320:689 Contextual Linguistics 3

**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.

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*Unless the student has passed a comparable course at the undergraduate level with a grade of "B" or better.
Master of Science in Geography

- Minimum of 39 graduate credit hours, to include no more than 6 credits of 3360:689. At least 12 credit hours must be taken at the 600 level, excluding 3350:689 and 689.
- Core Required Courses - 15 credit hours:
  3350:681 Research Methods in Geography and Planning
  3350:682 Spatial Analysis
  3350:683 Field Research Methods
  3350:687 History of Geographic Thought
  3350:688 Advanced Spatial Analysis

- Core:
  - Cartography/Remote Sensing (any three)
  - G.I.S.
  - Comparative Geology

- 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 (3350:685) as follows:
  - Core Requirements:
    3350:503 Introduction to Planning
    3350:506 Urban Land Use Analysis
    3350:508 Research Methods in Geography and Planning
    3350:509 Spatial Analysis
    3350:633 Planning Theory
    3350:634 Facilities Planning
    3350:635 Land Use Planning Law
    3350:637 Methods of Planning Analysis I
    3350:638 Methods of Planning Analysis II
    3350:639 History of Urban Development

- Electives - 5 courses, with a concentration from one of the following groups:
  - Land Use and Transportation (any three)
    3350:522 Transportation Systems Planning
    3350:528 Industrial and Commercial Site Location
    3350:529 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)
    3350:538 World Metropolitan Areas
    3350:580 Development Planning
    3350:571 Medical Geography and Health Planning
    3350:623 Comparative Planning
    3350:680 Advanced Spatial Analysis
  - G.I.S. (any three)
    3350:505 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 take 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. (A formal thesis work includes thesis proposal and 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:
  3370:686 Seminar in Geology
  3370:689 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 objective.

Geology

Equivalents of the current geology, 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 teaching must take 5500:780 Seminar in Curriculum and Instructional Studies: Earth Science, or equivalent.

Geophysics

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

Engineering Geology

This program is for the graduate engineer and geologist who wishes to broaden expertise in the 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-geology faculty will determine appropriate coursework on an individual basis.

- 3370:101 Introductory Physical Geology
- 3370:210 Geomorphology
- 3370:250 Structural Geology
- 3450:212, 213 Analytical Geometry Calculus II, III
- 4300:201 Statics
- 4300:202 Introduction to Mechanics of Solids
- 4300:313 Soil Mechanics
- 4300:314 Geotechnical Engineering

Environmental Geology

Equivalents of the University’s B.S. degree in natural science (biology, chemistry, geology, mathematics, or physics) or engineering, plus the equivalent of the University’s minor in geology and Geology Field Camp I and II 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 560 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
    - Europe, Renaissance to 1750
    - Europe, 1750 to the Present
    - England and the Empire
  - America to 1877
  - United States Since 1877
  - Latin America
  - East Asia
  - 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 Historiography
- 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.

Mathematical Sciences
Mathematics and Computer 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, 522) and Abstract Algebra I (3450:531). 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 II
    - 3450:811 Topics in Algebra
  - And all of the following courses:
    - 3450:621 Real Analysis
    - 3450:622 Measure Theory
    - 3450:625 Analytic Function Theory
    - 3450:692 Seminar in Mathematics

Thesis Option (30-39 credits)
In addition to the placement review and core requirements, 9-11 credits of 500/600-level courses in mathematics (3450), statistics (3470), 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, 16 credits of 500/600-level courses in mathematics (3450), statistics (3470), 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 – Applied Mathematics

Option I
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, 522) and of his or her background in at least one junior-level or higher course in engineering or physics. 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:
  - 3450:510 Advanced Linear Algebra
  - 3450:621 Real Analysis
  - 3450:625 Analytic Function Theory
  - 3450:627 Advanced Numerical Analysis I, II
  - 3450:633:4 Methods of Applied Mathematics I, II
  - 3450:682 Seminar in Mathematics

Thesis Option (30-39 credits)
In addition to the placement review and core requirements, 3-5 credits of approved 500/600 level courses in mathematics (3450), statistics (3470), or 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, 10 credits of approved 500/600 level courses in mathematics (3450), statistics (3470), or 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 Examination in the courses 3450:621, 625, 627, 633 and 634.

Option II
Completion of a placement process prior to the beginning of classes in the student’s first semester in the program is required. 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, 522) and Mathematical Models (3450:536). 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.

- 3450:510 Advanced Linear Algebra
- 3450:621 Real Analysis
- 3450:627 Advanced Numerical Analysis I
- 3450:635 Optimization
- 3450:636 Advanced Combinatorics and Graph Theory
- 3470:650 Advanced Probability and Stochastic Process
- 3470:651 Probability and Statistics
- 3450:692 Seminar in Mathematics

Thesis Option (30-39 credits)
In addition to the placement review and core requirements, 2-4 credits of approved 500/600-level courses in mathematics (3450), statistics (3470) or 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, 9 credits of approved 500/600-level courses in mathematics (3450), statistics (3470), or 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 courses 3450:621, 627, 635 and 3470:651 is required.

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 30 semester hours of graduate work while the nonthesis action 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: (626, 626), (640, 640), (665, 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 3 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, 3-6 credits in approved 500/600-level departmental courses and 2-4 credits in 3460:699 Master’s Thesis must be completed.

**Nonthesis 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.

**Statistics**

**Master of Science – Statistics**

• Entrance into the program will require the initial completion of the following prerequisites:
  3470:561 Applied Statistics I, four credits, or equivalent.
  3470:575 Math Concept for Statistics, four credits, or 3450:521/522 Advanced Calculus (I), three credits each, or equivalent.

• Core curriculum:
  3470:651 Probability and Statistics 4
  3470:652 Advanced Mathematical Statistics 3
  3470:665 Linear Models 3
  3470:666 Experimental Design 3
  3470:668 Regression 3
  3470:692 Seminar in Statistics 1-3

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

In addition to the core curriculum, 8-10 credits in 500/600-level mathematical sciences courses and 2-4 credits in 3470:699 Master’s Thesis must be completed.

**Nonthesis Option** (33 credits of graduate work)

In addition to the core requirements, 15 credits in 500/600-level mathematical sciences courses must be completed.

• A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or nonthesis option.

• With the consent of the department, up to 6 credits of approved graduate-level electives outside the department may be substituted in the thesis or nonthesis option.

**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 a coordinated program, subject to the following conditions, for those graduate students who elect the interdisciplinary field of Engineering Applied Mathematics.

**Admission Requirements**

Applications 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 42, 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:
  3650:651 Advanced Laboratory I
  3650:615 Electromagnetic Theory I
  3650:625 Quantum Mechanics I
  3650:641 Lagrangian Mechanics
  3650:661 Statistical Mechanics
  3650:685 Solid-State Physics I

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:

  3650:581.2 Methods of Mathematical Physics I, II
  3650:616 Electromagnetic Theory II
  3650:628 Quantum Mechanics II
  3650:552 Advanced Laboratory II

A student preparing for teaching secondary school science should include the following courses in the graduate program:

  3650:500 History of Physics
  3650:588 Digital Data Acquisition
  3650:590 Workshops (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 3650:697 Graduate Research, upon the completion of a graduate research project. One additional credit may, upon approval by the department, be permitted in 3650:699 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 30 total 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:

  3700:600 Scope and Theory of Political Science
  3700:691 Research Methods in Political Science

Three additional departmental seminars = 9 credits (Either Independent Research, Thesis, or 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 (3700:699) 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, in cooperation with 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 elective public office in partisan contests, influencing legislation, and political organization.

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:
    - 3700:570 Campaign Management I
    - 3700:571 Campaign Management II
    - 3700:572 Campaign Finance
    - 3700:540 Survey Research Methods
    - 3700:600 Scope and Theory of Political Science
    - 3700:601 Research Methods in Political Science
    - 3700:615 Internship in Government and Politics
    - 3700:672 Seminar: Political Influence and Organizations
    - 7600:691 Advanced Communication Studies: Communication in Political Campaigns
  - 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:
    - 3700:502 Politics and the Media
    - 3700:514 Political Behavior and Electoral Politics
    - 3700:573 Voter Contact and Voting
    - 3700:575 American Interest Groups
    - 3700:516 American Political Parties
    - 3700:620 Seminar in Comparative Politics
    - 3700:630 Seminar in National Politics
    - 3700:666 Seminar: Policy Agendas and Decisions
    - 3700:690 Special Topics in Political Science (applied focus)
    - 3700:697 Independent Research and Readings (applied focus)
    - 7600:665 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.
    - Piss 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 minor including a general or introductory course, statistics course, and experimental psychology course;
  - GPA of 3.00 in psychology courses;
  - Graduate Record Examination, Aptitude and Advanced Psychology Test;
  - Three letters of recommendation.
- Core requirements:
  - Completion 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 3.0 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 credits of graduate work, including thesis, as follows: Applied Cognitive Aging program, 39 credits; Counseling program, 49 credits; and Industrial/Organizational program, 41 credits.

Nonthesis Option

Completion of coursework, practicum and examinations (no thesis required), with a minimum of credits of graduate work for each program as follows: Applied Cognitive Aging program, 39 credits; Counseling program, 49 credits; and Industrial/Organizational program, 41 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. Courses may be taken outside the Department of Public Administration and Urban Studies for the purpose of fulfilling any of the requirements listed below but must be approved by the department prior to registration.

Each student will, upon entering the program in consultation with a faculty advisor, plan a complete course of study which includes 15-18 hours of core and 15-18 hours of approved electives.

- Core:
  - 3980:600 Basic Quantitative Research
  - 3980:601 Advanced Research and Statistical Methods
  - 3980:602 History of Urban Development
  - 3980:641 Urban Economic Growth and Development
  - 3980:643 Introduction to Public Policy
  - 3980:699 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 Research
      - 3980:601 Advanced Research and Statistical Methods
      - 3980:602 History of Urban Development
      - 3980:641 Urban Economic Growth and Development
      - 3980:643 Introduction to Public Policy
      - 3980:699 Master’s Thesis (optional)
    - and select 1 from the following 3 courses:
      - 3980:602 History of Urban Development
      - 3980:617 Leadership and Decision Making
      - 3980:671 Program Evaluation

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

** Students must either 3980:617 or 3980:671 in lieu of 3980:601. Students may also select either 3980:622, 3980:629, 3980:662 in lieu of 3980:643.

*** Students working full-time may 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
  - 3250:666 Seminar in Regional Economic Analysis and Development
  - 3700:630 Seminar in National Policies
  - 3700:641 Seminar in Intergovernmental Relations
  - 3700:670 Seminar in the Administrative Process
  - 3980:590 Workshop
  - 3980:612 National Urban Policy
  - 3980:613 Intergovernmental Management
  - 3988:618 Citizen Participation
  - 3989:520 Social Services Planning
  - 3989:621 Urban Society and Service Systems
  - 3989:622 Urban Planning and Health Care
  - 3990:623 Public Works Administration
  - 3980:636 Parks and Recreation
  - 3980:641 Urban Economic Growth and Development
  - 3980:650 Comparative Urban Systems
  - 3980:670 Research for Futures Planning
  - 3980:671 Program Evaluation in Urban Studies
  - 3980:672 Alternative Urban Futures
  - 3980:673 Computer Applications in Public Organizations
  - 3980:674 Analytical Techniques for Public Administration
  - 3980:680 Selected Topics in Urban Studies
  - 3980:681 Selected Topics in Urban Studies
  - 3980:697 Individual Studies

**J.D./Master of Public Administration**

The University offers a joint J.D. and Public Administration program. The title is J.D./M.P.A.

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 85 to 76), while public administration requirements are reduced by 12 credits (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
  - 3850:604 Social Research Design
  - 3850:617 Sociological Theory
  - 3850:631 Social Psychology
  - Or 3850:645 Social Organization
  - 3850:706 Multivariate Techniques in Sociology

- 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
  - 3850:604 Social Research Design
  - 3850:617 Sociological Theory
  - 3850:631 Social Psychology
  - Or 3850:645 Social Organization

- 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 professional preparation or enhancement and with the permission of the instructor. Inquiries should be directed to the graduate director in the Department of Sociology.

**Spanish**

**Master of Arts**

- 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.
College of Engineering

S. Graham Kelly, Ph.D., Interim Dean
Max S. Willis, Ph.D., Associate Dean,
Research and Graduate Studies
Paul C. Lam, Ph.D., Associate Dean,
Undergraduate Studies and Diversity Program
Deanna Dunn, Coordinator of Engineering Cooperative Education Program

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 of science degree must provide satisfactory evidence of an equivalent engineering baccalaureate background to the Dean of the College of Engineering.

Applicants must submit official undergraduate transcripts, undergraduate grade point average, at least two letters of recommendation, and official results of the verbal, quantitative, and analytical portions of the GRE. Personal statements or descriptions of post-baccalaureate experience that provide a rationale for the proposed graduate study may also be submitted.

Applicants with a bachelor’s degree must have a cumulative grade-point average of at least 3.0/4.0.

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

Applicants whose native language is not English must have a TOEFL score of at least 550, and also must submit their score on the Test of Written English.

Applicants not satisfying the requirements for Full Admission may be classified either as a Provisional Admission or as a Deferred Admission.

Applicants with a bachelor’s degree or a master’s degree in a discipline other than engineering shall have completed undergraduate coursework in calculus, differential equations, have one year of classical physics, and must select and complete at least 24 credits of undergraduate coursework of which 18 credits must be from one of the four undergraduate engineering disciplines listed below. The remaining 6 credits may be from among the four disciplines listed below. These undergraduate engineering courses may be taken prior to graduate admission, or concurrently if the student has Full Admission or Provisional Admission, and is enrolled for at least 9 graduate credits.

Chemical Engineering

4200:325 Equilibrium Thermodynamics 4
4200:332 Transport Phenomena 3
4200:330 Chemical Reaction Engineering 3
4200:331 Fluid and Thermal Operations 3
4200:353 Mass Transfer Operations 3
4200:436 Process Analysis and Control 3
4200:441 Process Economics and Design 4
Total 23

Civil Engineering

4300:306 Theory of Structures 3
4300:312 Solid Mechanics 3
4600:310 Fluid Mechanics 3
4600:323 Water Supply and Wastewater Disposal 4
4600:341 Hydraulic Engineering 3
4600:361 Transportation Engineering 3
4600:401 Steel Design 3
4600:403 Reinforced Concrete Design 3
Total 25

Electrical Engineering

4400:360 Physical Electronics 3
4400:361 Electronic Design 4
4400:363 Switching and Logic 4
4400:334 Energy Conversion I 3
4400:335 Energy Conversion Lab 2
4400:445 Analog Communications 3

Mechanical Engineering

4600:300 Thermodynamics I 4
4600:301 Thermodynamics II 3
4600:310 Fluid Mechanics 3
4600:315 Heat Transfer 3
4600:336 Analysis of Mechanical Components 3
4600:340 Systems Dynamics and Response 3
4600:350 Mechanical Metallurgy 2
4600:331 Fundamentals of Mechanical Vibrations 3
4600:541 Control System Design 3
Total 26

Transfer Credits

A student who has a master’s degree from another university or from one of the departments in the College of Engineering may, upon recommendation of the Interdisciplinary Doctoral Committee, transfer up to 24 credits of course work. The course comprising the transfer credits must be identified and itemized on the Plan of Study and must be substantiated by an official transcript from the educational institution that offered the courses.

A student who has completed a non-thesis master’s degree, or has graduate credits but has not completed the degree requirements for the master’s degree, can transfer a maximum of 24 credits of course work toward the doctoral course requirements.

No more than six credit hours of research or complete thesis credits can be transferred.

Degree Requirements

The University’s Academic Requirements (See Academic Requirements in this Graduate Bulletin) for the Doctoral Degree and the following College of Engineering’s academic requirements for the Doctoral Degree must be satisfied:

• Present a departmental Qualifying Examination. The purpose of the qualifying examination is to determine admisibility 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 600 and 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.
• Present and successfully (no "fail" votes) defend the dissertation 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, Materials Science, Mechanics, Systems Engineering, and Transport Processes. The objectives of the proposal were to allow doctoral students access to the infrastructure resources of the entire college, to reduce administrative costs, and to permit the interdisciplinary programs to adapt to changes in 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 fields 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 include 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 standpoints. 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 biomaterials.

Polymer Engineering combines fundamental engineering principles with the structure and rheological properties of polymers to design and analyze polymer processes and equipment.

Engineering Applied Mathematics applies advanced mathematics to technologies significantly significant engineering problems.

Chemical Reactions and Process Engineering studies chemical reactions, homogeneous chemical reactions, heterogeneous chemical reactions, and catalysis, as applied to process engineering.

Microscale Physicochemical Engineering studies small particles, surface science, agglomeration, and separation as applied to process engineering.

The interdisciplinary doctoral program has succeeded in providing doctoral students access to the resources of the entire college while providing an economically sound administration for a program that deals with a doctoral population that is much smaller than those for undergraduate or master’s degrees.

**COORDINATED AND JOINT PROGRAMS**

**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, identifying a Dissertation Director, establishing an Interdisciplinary Doctoral Committee, completing a formal Plan of Study, satisfying the University’s language and residency requirement, passing a Candidacy Examination, presenting an acceptable Dissertation Proposal, writing a dissertation, and publicly and successfully passing a “full” final defense the dissertation before the Interdisciplinary Doctoral Committee.

Students in the Engineering Applied Mathematics Program must pass a departmental Qualifying Examination, 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 lacking a bachelor’s degree or master’s degree in engineering shall take a minimum of 24 credits of bridging courses of which 6 credits may be at the 500 level. For a list of these bridging courses, see the Admission Requirements for the Doctor of Philosophy in Engineering degree. Students with a bachelor’s degree in engineering shall take:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>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>3450:426</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>
</tbody>
</table>

The student may substitute 3450:600, 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 level courses, of which none are special topics courses, and 6 credits of special topics of 400/500 level courses. At least 24 credits 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 isolating 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. The dean of engineering at Youngstown State University shall forward 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 academic credentials and make a recommendation on the academic acceptability of the applicant. If the recommendation is favorable, the student shall be advised to apply to the Graduate School at The University of Akron for formal admission to the Doctoral Program in the College of Engineering at The University of Akron. The dean of Graduate Studies and Research at Youngstown State University shall be kept informed of the progress of the admission procedure. The applicant from Youngstown State University must satisfy the Admission Requirements for the Doctor of Philosophy in Engineering at The University of Akron.

**Degree Requirements**

The engineering student from Youngstown State University must satisfy the Degree Requirements for the Doctor of Philosophy in Engineering at The University of Akron subject to the following modifications.

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 adjunct status at The University of Akron and qualify for Category II graduate faculty membership.

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 determined by the faculty on 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 Northeastern Ohio Universities College of Medicine.

The College of Engineering and NEOUCOM 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 NEOUCOM.

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
- M.D., Ph.D. Classical Physics I and II
- Ph.D. Statics
- Ph.D. Dynamics

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 of the Accreditation Board for Engineering and Technology at the time of graduation, or provide evidence of an equivalent academic background to the Dean of the College of Engineering and the appropriate department head.

Applicants must submit an official undergraduate transcript, undergraduate grade point average, and at least two letters of recommendation, and official results of the verbal, quantitative, and analytical portions of the GRE.

Applicants with a bachelor's degree must have an overall grade-point average of 2.76 or better or 3.00 for the last two years (64 semester credits or equivalent).

Applicants whose native language is not English must have a TOEFL score of at least 550, 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 with a bachelor's degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of classical physics, and must select and complete at least 24 credits of undergraduate coursework from one of the following: Chemical Engineering, Mechanical Engineering, Electrical Engineering, or Civil Engineering. Each student must be advised by a major adviser before the Advisory Committee.

Chemical Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>420:305</td>
<td>Equilibrium Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>420:321</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>420:331</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>420:331</td>
<td>Fluid and Thermal Operations</td>
<td>3</td>
</tr>
<tr>
<td>420:353</td>
<td>Mass Transfer Operators</td>
<td>3</td>
</tr>
<tr>
<td>420:325</td>
<td>Process Analysis and Control</td>
<td>3</td>
</tr>
<tr>
<td>420:441</td>
<td>Process Economics and Design</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 23

Civil Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>430:306</td>
<td>Theory of Structures</td>
<td>3</td>
</tr>
<tr>
<td>430:313</td>
<td>Soil Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>460:310</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>430:335</td>
<td>Water Supply and Wastewater Disposal</td>
<td>4</td>
</tr>
<tr>
<td>430:341</td>
<td>Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>430:361</td>
<td>Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>430:401</td>
<td>Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>430:403</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 25

Electrical Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>440:360</td>
<td>Physical Electronics</td>
<td>3</td>
</tr>
<tr>
<td>440:361</td>
<td>Electronic Design</td>
<td>3</td>
</tr>
<tr>
<td>440:363</td>
<td>Switching and Logic</td>
<td>3</td>
</tr>
<tr>
<td>440:384</td>
<td>Energy Conversion I</td>
<td>3</td>
</tr>
<tr>
<td>440:385</td>
<td>Energy Conversion Lab</td>
<td>2</td>
</tr>
<tr>
<td>440:445</td>
<td>Analog Communications</td>
<td>3</td>
</tr>
<tr>
<td>440:453</td>
<td>Antenna Theory</td>
<td>3</td>
</tr>
<tr>
<td>440:472</td>
<td>Control Systems II</td>
<td>4</td>
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</tbody>
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Total: 26

Mechanical Engineering

<table>
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<tr>
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<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>460:300</td>
<td>Thermodynamics I</td>
<td>4</td>
</tr>
<tr>
<td>460:301</td>
<td>Thermodynamics II</td>
<td>3</td>
</tr>
<tr>
<td>460:310</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>460:315</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>460:336</td>
<td>Analysis of Mechanical Components</td>
<td>3</td>
</tr>
<tr>
<td>460:340</td>
<td>Systems Dynamics and Response</td>
<td>3</td>
</tr>
<tr>
<td>460:380</td>
<td>Mechanical Metallurgy</td>
<td>2</td>
</tr>
<tr>
<td>460:441</td>
<td>Fundamentals of Mechanical Vibrations</td>
<td>3</td>
</tr>
<tr>
<td>460:441</td>
<td>Control System Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 27

Degree Requirements

The University's Academic Requirements (See Academic Requirements in this Graduate Bulletin), the following College of Engineering requirements and the department's academic requirements must all be satisfied for the master of science degree in the College of Engineering.

- Identify a three-member Advisory Committee including a major adviser 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 (no "fail" votes) defend the thesis before the Advisory Committee, or have the Engineering Report approved by the Advisory Committee, or successfully complete the appropriate departmental nonthesis option requirements.

Master of Science in Chemical Engineering

Thesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>420:600</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>420:605</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>420:610</td>
<td>Classical Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>420:620</td>
<td>Chemical Engineering Electives</td>
<td>6</td>
</tr>
<tr>
<td>420:630</td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td>420:640</td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>420:650</td>
<td>Master's Thesis</td>
<td>6</td>
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Total: 30

Nonthesis Option

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>420:600</td>
<td>Transport Phenomena</td>
<td>3</td>
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<tr>
<td>420:605</td>
<td>Chemical Reaction Engineering</td>
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<td>420:610</td>
<td>Classical Thermodynamics</td>
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<td>420:620</td>
<td>Chemical Engineering Electives</td>
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<td>420:630</td>
<td>Approved Electives</td>
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</tr>
<tr>
<td>420:640</td>
<td>Approved Mathematics</td>
<td>3</td>
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</table>

Total: 36

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

Five Year BS/MS Chemical Engineering Program

The five year BS/MS program in Chemical Engineering provides superior undergraduate students with the opportunity to complete an M.S. in Chemical Engineering with one additional year of study beyond their B.S. Chemical Engineering degree at The University of Akron. The program is only available to B.S. Chemical Engineering students at The University of Akron. Applications are accepted in the Spring of the junior year.
Master of Science in Civil Engineering

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

Thesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering Courses*</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td>Master's Thesis</td>
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<tr>
<td>Total</td>
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Nonthesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering Courses*</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics or Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>12</td>
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<tr>
<td>Engineering Report</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering Courses**</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>Approved Electives</td>
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</tr>
<tr>
<td>Master's Thesis</td>
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Nonthesis Option

<table>
<thead>
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<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Electrical Engineering Courses**</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>6</td>
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<tr>
<td>Approved Electives</td>
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<td>Engineering Report</td>
<td>2</td>
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<tr>
<td>Total</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Courses*</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
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<tr>
<td>Master's Thesis</td>
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Nonthesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Courses*</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Report</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

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.

Admissions

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.

Thesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Courses</td>
<td>12</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>

The thesis must be successfully (no “fail” votes) defended before the Advisory Committee.

Nonthesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Courses</td>
<td>18</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td>Engineering Report</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

The engineering report must receive the approval of the Advisory Committee.

Biomedical Engineering Specialization

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4800:601 Biomedical Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>4800:611 Biometry</td>
<td>3</td>
</tr>
<tr>
<td>3100:685 Physiology for Engineers and Lab</td>
<td>5</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
</tr>
</tbody>
</table>

The thesis must be successfully (no “fail” votes) defended before the Advisory Committee.

Polymer Engineering Specialization

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer Engineering Core</td>
<td>12</td>
</tr>
<tr>
<td>Polymer Engineering Electives</td>
<td>11</td>
</tr>
<tr>
<td>Approved Engineering and Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

The thesis must be successfully (no “fail” votes) defended before the Advisory Committee.

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Courses</td>
<td>21</td>
</tr>
<tr>
<td>Management Courses</td>
<td>15</td>
</tr>
<tr>
<td>Engineering Management Report</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
</tr>
</tbody>
</table>

The engineering report must receive the approval of the Advisory Committee.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:601 Financial Accounting*</td>
<td>2</td>
</tr>
<tr>
<td>6400:602 Managerial Finance**</td>
<td>3</td>
</tr>
<tr>
<td>6500:600 Management and Organizational Behavior*</td>
<td>3</td>
</tr>
<tr>
<td>6600:600 Marketing Concepts*</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective

Choose three credits of 600 level College of Business Administration courses.

*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

Larry G. Bradley, Ph.D., Interim Dean
James T. Hardy, Ph.D., Acting Assistant Dean for Advanced Programs

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

The program leading to the Doctor of Philosophy degree in the Department of Curricular and Instructional Studies is offered through the College of Education. Two degrees are offered, the Ph.D. in Elementary Education, and the Ph.D. in Secondary Education. The degree will be awarded to the student who, in addition to filling the general requirements of the Graduate School, has met the following specific requirements:

• Successful completion of all Departmental Admission Requirements.
• Completion of the Miller Analogies Test or the Graduate Record Examination (GRE).
• A minimum of 92 graduate credits 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 and excluding English: - a student in the Department of Curricular and Instructional Studies may elect to develop appropriate research skills prescribed by the adviser, subject to review by the department chair, in lieu of the foreign language requirement. (See section on Additional Research Competency.)
• Completion of a least six credits in a cognate area.
• Completion of a comprehensive written and oral examination.
• Completion of a dissertation comprising not more than 20 credits. Credits beyond the 20 hours may not be applied to the degree. The oral examining committee must be constituted of at least five full-time graduate faculty members, one of whom must be from outside the College.
• Pass the general requirements for the Doctor Philosophy degree.

Doctor of Philosophy Degree in the Department of Curricular and Instructional Studies

The Doctor of Philosophy degrees offered by the Department of Curricular and Instructional Studies are designed to meet the needs and interests of persons in pre-K, elementary, middle, secondary, postsecondary, higher education, and other institutions or agencies that might have educational/learning programs. A qualified student can, through consultation with an advisor, use the expertise of the department, design a specialization to meet his/her career objectives.

Program Description
The program is predicated on the belief that an effective instructor evolves from a well-planned program containing exposure in three basic areas:
1. Common core foundational studies
2. A specialization
3. Professional education in Curricular and Instructional Studies
4. Other contributing disciplines (graduate)

With this philosophy in mind, the program provides study in a common core of study, a selected discipline, professional education, and cognate fields. Listed below and of particular significance are the two sequential steps necessary in the program:

1. Written and Oral Comprehensive
These Comprehensive Examinations should be taken after the completion of the first two-thirds of work and prior to the completion of three-fourths of the program with the approval of the student's advisor. Written comprehensive exams are taken once a year in the Spring.

2. Dissertation
The dissertation proposal must receive approval of the Dissertation Committee prior to advancement to candidacy.

Admission Requirements
Admission to the Curricular and Instructional Studies Ph.D. program is limited to a select number of students each Fall or Spring Semester. More candidates apply for admission than the Department has the resources and capacity to admit. Therefore, applying for admission to the doctoral program is no guarantee of admission, and applicants to the program must recognize the possibility of denial. Criteria for admission to the Curricular and Instructional Studies Ph.D. program are as follows:

1. Graduate and undergraduate degrees from accredited universities and in programs considered to offer adequate preparation for the Ph.D. in Curricular and Instructional Studies (Ph.D., Elementary Education, Ph.D., Secondary Education).
2. Acceptable grade point averages in a completed graduate degree (at least a 3.50 GPA on a scale of 4.0).
3. Demonstration of doctoral level writing ability as evidenced by a Miller Analogies Test score of 45 or higher, or a 550 on the verbal portion of the GRE, and a prescribed and evaluated written assignment.

The following statements govern use of the Miller Analogies Test/GRE and a controlled writing sample as part of the Admissions criteria:

a. Applicants who score less than 45 on the MAT or 550 on the verbal portion of the GRE and receive three or more failing evaluations of the controlled writing assignment shall be denied admission to the program.

b. Applicants who score less than 45 on the MAT or 550 on the verbal portion of the GRE but receive passing evaluations on the writing assignment will have their application deferred pending a faculty interview and evaluation. The MAT may be repeated subject to the Psychological Corporation's rules for repeated testing.

c. Applicants who score 45 or higher on the MAT or 550 on the verbal portion of the GRE and receive three or more failing evaluations on the controlled writing assignment shall have their application deferred pending a faculty interview and evaluation.

d. All doctoral applicants must take the GRE or the MAT. This includes those persons who took the test upon entry into a master's program.

4. Intended area of specialization is compatible with departmental resources and goals.

5. Obtain faculty sponsorship through completion of the "Agreement to Advise" form that is included with this information.

All doctoral applicants must do the following:

1. Complete all the admission materials, as specified in Requirements and Procedures of the Doctoral Programs in Education by October 1 for Fall admits or March 1 for Spring admits.

2. Complete the Miller Analogies Test or Graduate Record Exam. This includes applicants who may have taken either of their tests as a Master's level applicant.

3. Complete a controlled writing assignment offered the third Saturday in October for Fall and the second Saturday in March.

4. Complete the "Agreement to Advise" form and secure faculty signature by October 1 for Fall and March 1 for Spring. The major advisor must be from the Department of Curricular and Instructional Studies, the minor advisor must be from the College of Education.

5. If requested by the Department, interview with committee.
knowledge, pose, thinking ability, ability to communicate verbally, relevant educational work experience, uniqueness, potential success in desired field, and motivation and commitment to a position of educational leadership.

6. In certain cases an applicant may be required to take course work on the graduate level at The University of Akron before a final decision on his/her application for admission is made.

7. Candidates must have at least three years of teaching experience. This does not apply to postsecondary/technical adult education area candidates.

Additional Research Competency

In addition to successfully completing the approved program of courses, the Ph.D. student must display competency in one of the following areas. Course work taken to develop the competency may not be applied to the total number of hours required in the Ph.D. program.

a. Foreign Language

A reading knowledge of one foreign language. The Department will work cooperatively with the Department of Modern Languages to determine that the student uses in fact demonstrate the ability to read in a foreign language i.e., a language other than the student’s native language and excluding English.

b. Statistics/Research Methods

Students will successfully complete a minimum of 9 hours of advanced statistical/research methods courses approved by student’s advisor.

c. Professional Publication

The preparation of a research or position paper accepted for publication by a refereed professional journal. The student may serve as senior or co-author. The advisor must file a letter of approval of the published work. This letter shall present the advisor’s review of the academic integrity of the published article in terms of adequacy in meeting this requirement. A letter of acceptance for publication shall be considered as published.

Doctoral Residency Requirements

The minimum residency requirement for a doctoral candidate in all programs is at least two consecutive semesters of full-time study and involvement in departmental activities. Full-time study is defined as 9-15 semester credits, except for graduate teaching and research assistants for whom full-time is specified by assistantship agreements. The summer session may count as one semester, provided the candidate is registered for a minimum of 10 consecutive weeks of full-time study and for a minimum of six semester hours per five-week session (University of Akron Graduate Bulletin, 1996-97, p. 24).

Curricular and Instructional Studies Ph.D. Course Requirements

Social-Philosophical Foundations (19)

5100:500 Philosophies of Education (or 602, or 604) 3
5100:520 Psychology of Instruction for Teaching and Learning (or 624 or 5400:500) 3
5100:101 History of Education in American Society (or 703) 3
5100:755 Seminar in Social/Philosophical Foundations of Education 3
5100:723 Teaching Behavior and Instruction (or 721 or 710) 3

Research Foundations (18)

5100:740 Techniques of Research 3
5100:741 Research Design 3
5100:742 Data Collection Methods 3
5100:743 Statistics in Education 3
5100:780 Seminar: Experiential/Qualitative 3
5100:801 Seminar: Empirical or Seminar II: Ethnographic/Historical or Case Study Research or Legal Research and Writing or another advanced/interdisciplinary course

Curricular and Instructional Studies Core (15)

6510:800 Professional Doctoral Seminar in Curricular and Instructional Studies 3
6550:890 Seminar in Curricular and Instructional Studies 3
6650:600 Concepts of Curriculum & Instruction 3
6650:605 Seminar in Trends and Issues in Curriculum & Instruction 3

Three additional hours will be selected in the area of Curricular and Instructional Studies with advisor approval.

Area of Specialization: 18 credit hours

Cognate Area Outside of Education: 6 credit hours

Dissertation: 20 credit hours

Total Program: 92 credit hours

Additional coursework taken to develop a competency area may not be applied to the total number of hours required in the Ph.D. program.
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 of a related field. The program allows the student a choice of three specialty areas: (a) Counseling 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. Practica and internship experiences are required in each specialty. In addition, the cognate 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 membership in the American Association for Marriage and Family Therapy. The Graduate Record Examination (General Test) will be used as the qualifying examination. Students will select any combination of the following research courses for a minimum of 12 semester hours depending upon their research interests and career goals.

**Ph.D. in Guidance and Counseling Requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:701</td>
<td>History of Education in American Society</td>
</tr>
<tr>
<td>5100:702</td>
<td>Research Seminar: Exploratory/Qualitative</td>
</tr>
<tr>
<td>5100:703</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:704</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:705</td>
<td>Research Seminar: Empirical Studies</td>
</tr>
<tr>
<td>5100:706</td>
<td>Educational Administration (EdD)</td>
</tr>
<tr>
<td>5100:707</td>
<td>History of Education in American Society</td>
</tr>
<tr>
<td>5100:708</td>
<td>Research Seminar: Exploratory/Qualitative</td>
</tr>
<tr>
<td>5100:709</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:710</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:711</td>
<td>Research Seminar: Empirical Studies</td>
</tr>
<tr>
<td>5100:712</td>
<td>Educational Administration (EdD)</td>
</tr>
<tr>
<td>5100:713</td>
<td>History of Education in American Society</td>
</tr>
<tr>
<td>5100:714</td>
<td>Research Seminar: Exploratory/Qualitative</td>
</tr>
<tr>
<td>5100:715</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:716</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:717</td>
<td>Research Seminar: Empirical Studies</td>
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<tr>
<td>5100:718</td>
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<td>History of Education in American Society</td>
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<tr>
<td>5100:720</td>
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<tr>
<td>5100:721</td>
<td>Research Seminar: Case Study Research</td>
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<tr>
<td>5100:722</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:723</td>
<td>Research Seminar: Empirical Studies</td>
</tr>
<tr>
<td>5100:724</td>
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</tr>
<tr>
<td>5100:725</td>
<td>History of Education in American Society</td>
</tr>
<tr>
<td>5100:726</td>
<td>Research Seminar: Exploratory/Qualitative</td>
</tr>
<tr>
<td>5100:727</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:728</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:729</td>
<td>Research Seminar: Empirical Studies</td>
</tr>
<tr>
<td>5100:730</td>
<td>Educational Administration (EdD)</td>
</tr>
<tr>
<td>5100:731</td>
<td>History of Education in American Society</td>
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<tr>
<td>5100:732</td>
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<tr>
<td>5100:733</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:734</td>
<td>Research Seminar: Legal Research and Writing</td>
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<tr>
<td>5100:735</td>
<td>Research Seminar: Empirical Studies</td>
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<td>5100:736</td>
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<td>5100:737</td>
<td>History of Education in American Society</td>
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<td>5100:738</td>
<td>Research Seminar: Exploratory/Qualitative</td>
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<td>5100:739</td>
<td>Research Seminar: Case Study Research</td>
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<tr>
<td>5100:740</td>
<td>Research Seminar: Legal Research and Writing</td>
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<tr>
<td>5100:741</td>
<td>Research Seminar: Empirical Studies</td>
</tr>
<tr>
<td>5100:742</td>
<td>Educational Administration (EdD)</td>
</tr>
<tr>
<td>5100:743</td>
<td>History of Education in American Society</td>
</tr>
<tr>
<td>5100:744</td>
<td>Research Seminar: Exploratory/Qualitative</td>
</tr>
<tr>
<td>5100:745</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:746</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:747</td>
<td>Research Seminar: Empirical Studies</td>
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</tbody>
</table>

**Cognate (12):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:701</td>
<td>History of Education in American Society</td>
</tr>
<tr>
<td>5100:702</td>
<td>Research Seminar: Exploratory/Qualitative</td>
</tr>
<tr>
<td>5100:703</td>
<td>Research Seminar: Case Study Research</td>
</tr>
<tr>
<td>5100:704</td>
<td>Research Seminar: Legal Research and Writing</td>
</tr>
<tr>
<td>5100:705</td>
<td>Research Seminar: Empirical Studies</td>
</tr>
</tbody>
</table>

**Elective Courses:**

- Advanced Counseling Practicum
- Internship in Counseling
- Supervision in Counseling
- Internship in Counseling
- Supervision in Counseling
- Major Electives

**Dissertation:**

- Minimum 20 semester hours
- Doctoral Dissertation

**Curriculum and Supervision (6):**

- Supervision: Student Internship
- Supervision: Student Internship
- Supervision: Student Internship
- Supervision: Student Internship
- Supervision: Student Internship
- Supervision: Student Internship

**Cognate (12):**

- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)
- Educational Administration (EdD)

**Continuous Doctoral Program Enrollment:**

All students admitted to the doctoral program must register for a minimum of one semester hour of graduate credit as approval by their advisers during each fall and spring semester. Individual departments may exceed this minimum requirement. Doctoral students should consult their advisers 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. Examinations 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.*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:602</td>
<td>Comparative and International Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:604</td>
<td>Topical Seminar in the Cultural Foundations of Edu</td>
<td>3</td>
</tr>
<tr>
<td>5100:620</td>
<td>Psychology of Instruction for Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5400:624</td>
<td>Seminar Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

*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/or a master's degree. Program areas include counseling, school psychology, and special education. The person who meets program prerequisites and who has earned a master's degree may matriculate as a non-degree graduate student and pursue a program that leads, in selected areas, to certification.

The Graduate Record Examination (General Test) will be used as the qualifying examination for all Counseling master's programs. The Miller's 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 specially accredited body recognized by the Commission on Recognition of Postsecondary Accreditation (CORPA), has conferred accreditation on the Community, Marriage and Family, and School Counseling programs.

Classroom Guidance for Teachers

This course of study leads to an expanded knowledge of how guidance and counseling services benefit students and others in public school settings. Note that numerous areas of concentration are available to students. This is not a certification program. 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
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5100:620    | Psychology of Instruction for Teaching and Learning| 3       |
    | 5100:624    | Seminar Educational Psychology                    | 3       |
    | 5600:648    | Individual and Family Development                 | 3       |
  - Humanistic Foundations
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5100:600    | Philosophies of Education                         | 3       |
    | 5100:640    | Topical Seminar in the Cultural Foundations of Edu| 3       |
    | 5600:646    | Multicultural Counseling                          | 3       |
- Research
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>
- Minimum Foundation Hours Required
  | Credits     |                                                   |
  | 9           |                                                   |

- Required Departmental Courses
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:651</td>
<td>Elementary School Guidance</td>
<td>3</td>
</tr>
<tr>
<td>5600:653</td>
<td>Secondary School Guidance</td>
<td>3</td>
</tr>
<tr>
<td>5600:657</td>
<td>Career Development and Counseling Across the Lifes</td>
<td>3</td>
</tr>
<tr>
<td>5600:645</td>
<td>Counseling Skills</td>
<td>4</td>
</tr>
<tr>
<td>5100:610</td>
<td>Seminar in School Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:685</td>
<td>Field Experience (WATS)* be taken before or concurrently with 6603</td>
<td>1</td>
</tr>
<tr>
<td>5100:645</td>
<td>Developmental Characteristics of Exceptional Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5101:648</td>
<td>Education and Management Strategies for Parents of Exceptional Individuals</td>
<td>3</td>
</tr>
</tbody>
</table>
- Minimum Department Hours Required
  | Credits     |                                                   |
  | 20          |                                                   |

Community Counseling

The 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 (Select one course from each area)
  - Behavioral Foundations
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5600:648    | Individual and Family Development                 | 3       |
  - Humanistic Foundations
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5600:646    | Multicultural Counseling                          | 3       |
  - Research
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5100:640    | Techniques of Research                           | 3       |
    | 5100:640    | Statistics in Research                           | 3       |
- Minimum Foundation Hours Required
  | Credits     |                                                   |
  | 9           |                                                   |

- Required Counseling Department Courses
  - Professional Orientation
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5600:600    | Seminar in Counseling                             | 1       |
    | 5600:635    | Community Counseling                              | 3       |
    | 5600:645    | Practical Counseling                              | 4       |
  - Counseling Theory
    | Course Code | Course Title                                      | Credits |
    |-------------|---------------------------------------------------|---------|
    | 5600:644    | Counseling Theory & Philosophy                     | 3       |
    | 5600:644    | Career Development and Counseling Across the Lifes| 3       |
- Minimum Department Hours Required
  | Credits     |                                                   |
  | 32-33       |                                                   |

- Electives (Select a minimum of 6 hours with advisor's approval. Recommended courses appear below)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3375:610</td>
<td>Personality</td>
<td>4</td>
</tr>
<tr>
<td>3375:620</td>
<td>Abnormal Psychology</td>
<td>4</td>
</tr>
<tr>
<td>3375:630</td>
<td>Psychological Disorders of Children</td>
<td>4</td>
</tr>
<tr>
<td>3375:650</td>
<td>Learning and Cognition</td>
<td>4</td>
</tr>
<tr>
<td>3375:660</td>
<td>Psychology Core 1: Organizational, Social, Applied</td>
<td>4</td>
</tr>
<tr>
<td>3375:670</td>
<td>Psychology Core 2: Developmental, Perceptual, Cognitive</td>
<td>4</td>
</tr>
<tr>
<td>3375:680</td>
<td>Survey of Proactive Techniques</td>
<td>4</td>
</tr>
<tr>
<td>3375:727</td>
<td>Psychology of Adulthood and Aging</td>
<td>4</td>
</tr>
<tr>
<td>3895:515</td>
<td>Social Interaction</td>
<td>3</td>
</tr>
<tr>
<td>3895:543</td>
<td>Industrial Sociology</td>
<td>3</td>
</tr>
<tr>
<td>5600:620</td>
<td>Seminar in Counseling</td>
<td>2-3</td>
</tr>
<tr>
<td>5600:649</td>
<td>Counseling and Personnel Services in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>5600:655</td>
<td>Manoos and Family Therapy, Theory and Techniques</td>
<td>3</td>
</tr>
<tr>
<td>5600:657</td>
<td>Marital Therapy (Prerequisite 5600:655)</td>
<td>3</td>
</tr>
<tr>
<td>5600:658</td>
<td>Systems Theory in Family Therapy (Prerequisite 5600:655)</td>
<td>3</td>
</tr>
<tr>
<td>5600:696</td>
<td>Field Experience (Prerequisites)</td>
<td>1-10</td>
</tr>
<tr>
<td>5600:697</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>5600:729</td>
<td>Seminar in Counseling</td>
<td>2-3</td>
</tr>
<tr>
<td>5610:540</td>
<td>Developmental Characteristics of Exceptional Individuals</td>
<td>4</td>
</tr>
</tbody>
</table>
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 3
  - Humanistic Foundations
    - 5600:664 Multicultural Counseling 3
  - Research
    - 5100:640 Techniques of Research 3
  - Minimum Foundation Hours Required 9

- **Required Counseling Department Courses**
  - Professional Orientation (select one course from each area)
    - 5600:600 Seminar in Counseling 1
    - 5600:631 Elementary School Guidance or 3
    - 5600:653 Secondary School Guidance 3
    - 5600:659 Organization & Administration of Guidance Services 3
    - Subtotal 7
  - Counseling Theory
    - 5600:693 Counseling Theory & Philosophy* 3
    - 5600:697 Career Development and Counseling Across the Lifespan 3
    - Subtotal 6
  - Appraisal
    - 5600:645 Tests and Appraisal in Counseling 4
    - Prerequisite: 5000:640 4
    - Subtotal 4
  - Counseling Process (all required)
    - 5600:651 Techniques of Counseling* 3
    - 5600:653 Group Counseling (prerequisites 5600:651 and 655) 4
    - 5600:657 Practicum in Counseling (prerequisite 5600:653) 5
    - Subtotal 12
  - Internship
    - 5600:695 Internship in Counseling (2 terms, prerequisite 5600:675)** 6-7
    - Subtotal 6-7
  - Minimum Department Hours Required 35-36

- **Specialized Studies (both required)**
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3
  - 5610:620 Topical Seminar: Substance Abuse and Sexuality 2
  - Subtotal 5
  - Total Semester Hours Required for Graduation 45-50

- **Foundations (select one course from each area)**
  - Behavioral Foundations
    - 5600:648 Individual and Family Development 3
  - Humanistic Foundations
    - 5600:664 Multicultural Counseling 3
  - Research
    - 5100:640 Techniques of Research 3
    - Minimum Foundation Hours Required 9

- **Required Counseling Department Courses (all required)**
  - Professional Orientation
    - 5600:600 Seminar in Counseling*** 1
    - 5600:656 Marriage and Family Therapy: Theories and Techniques 3
    - Subtotal 4
  - Counseling Theory
    - 5620:687 marital Therapy (prerequisite 5600:655) 3
    - 5600:689 Systems Theory in Family Therapy (prerequisite 5600:655) 3
    - 5600:693 Counseling Theory and Philosophy 3
    - 5600:697 Career Development and Counseling Across the Life Span 3
    - Subtotal 12
  - Appraisal
    - 5600:645 Tests and Appraisal in Counseling 4
    - Subtotal 4
  - Counseling Process
    - 5600:251 Techniques of Counseling* 3
    - 5600:653 Group Counseling (prerequisites 5600:651 and 655) 4
    - 5600:657 Practicum in Counseling (prerequisite 5600:653) 5
    - Subtotal 12
  - Internship
    - 5600:695 Internship in Counseling (2 terms, prerequisite 5600:675)** 6-7
    - Subtotal 6-7
  - Minimum Department Hours Required 38-39

- **Specialized Studies**
  - Family Studies
    - (Required)
      - 7400:651 Family and Consumer Law (choose two of the following) 3
        - 7400:602 Family Law and Practice 2
        - 7400:605 Developmental Parent-Child Interactions 3
        - 7400:675 Conceptual Frameworks in Family Ecology 3
      - Sexuality (choose one)
        - 5600:620 Substance Abuse and Sexuality 2
        - 7400:642 Human Sexuality 3
      - Human Development and Individual Differences (choose one)
        - 3750:501 Personality 4
        - 3750:520 Abnormal Psychology 4
        - 3750:530 Psychological Disorders of Children 4
        - 3750:550 Learning and Cognition 4
        - 5100:721 Learning Processes 3
        - 7400:665 Development in Infancy and Early Childhood 3
  - Minimum Specialized Studies Required 13-16
  - Minimum Hours for Marriage and Family Therapy 60-64

**- Specialized Studies (both required)**

- **Counseling Theory and Philosophy and Techniques of Counseling may be taken concurrently.
- Must sign up with Secretary one year in advance.
- Must sign up with Internship Coordinator no later than second week of term preceding internship.
- Minimum Foundation Hours Required 9
- Must get one from the Department office prior to registering.

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.
Sixth-Year School Psychology Master's Degree and Certification Program

**Foundations requirements:**
- 3100:600 Special Seminar in the Foundations of Education 3
- 3100:624 Seminar: Educational Psychology 3
- 5600:640 Techniques of Research 3
- 5600:641 Statistics in Education 3

**Professional requirements:**
- 3750:700 Survey of Practice Techniques 4
- 3750:720 Principles and Practice of Individual Intelligence Testing 4
- 5100:604 Topical 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 Diagnosis for the School Psychologist 4

**Program admission:**
- It is important that an appointment be made with the student's assigned adviser very early in his/her graduate studies. A signed program plan specifying the student's program and timeline for completion must be completed with the adviser by the time the student has earned nine hours of graduate coursework. As part of the program degree requirements, the student must pass a comprehensive written examination. All degree requirements must be completed within six years after beginning graduate level coursework at The University of Akron or elsewhere.
- **Foundations core (9 credits):**
  - 5100:600 Philosophy of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:640 Techniques of Research 3

- **Special Education core (24 credits):**
  - 5600:610 Counseling Skills for Teachers 3
  - 5610:601 Seminar: Special Education/Curriculum Planning 3
  - 5610:602 Supervision of Instruction 3
  - 5610:604 Collaboration and Consultation Skills for Special Educators 3
  - 5610:605 Inclusion Models and Strategies 3
  - 5610:611 Seminar: Legal Issues in Special Education 3
  - 5610:612 Seminar: Sociocultural Issues in Special Education 3
  - 5710:722 Topical Seminar: Education Administration (Disability Law for Educators) 3

- **Research Requirement (choose one of the following):**
  - 5610:606 Research Applications in Special Education 3
  - 5610:604 Research Project in Special Area 3
  - 5610:698 Master's Problem 3
  - 5610:699 Master's Thesis 4

**Total Program**: 36-37

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**Educational Foundations and Leadership**

**Educational Administration**

The Department of Educational Foundations and Leadership offers a master's degree program in educational administration which is not directed toward a particular administrative license. With the help of an adviser 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 – 12 credits:**
  - 5100:600 Philosophy of Education 3
  - 5100:640 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration – 15:**
  - 5170:601 Principles of Educational Administration 3
  - 5170:604 School Community Relations 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:613 Administration of Pupil Services 3

- **Curriculum and Supervision – 6:**
  - 5170:601 Principles of Curriculum Development 3
  - 5170:610 Principles of Educational Supervision 3

**Total**: 33 credits

The student will be required to pass a portfolio assessment by a three-member faculty panel in order to qualify for graduation.

**Higher Education Administration (Specialized Option)**

All applicants to the program should have previously earned a bachelor's degree. Special admission for concentrats toward a master's degree and the higher education certificate may be allowed 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 in 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:**
  - 5170:601 Principles of Higher Education 3
  - 5170:606 Educational Systems 3
  - 5170:613 Administration of Pupil Services 3

**Total**: 33 credits
The Principalship is a program option in educational administration built on two components: the general administration master’s and those post-master’s courses listed below.

Master’s Degree in Educational Administration

- **Foundation** – 12 credits:
  - 5100:600 Philosophy of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Curriculum and Supervision** – 6:
  - 5170:609 Principles of Curriculum Development 3
  - 5170:610 Principles of Educational Supervision 3

- **Total**: 33 credits

Post-Master’s Requirements – 16 credits:
- 5170:602 Management of Physical Resources 3
- 5170:603 Management of Human Resources 3
- 5170:608 School Finance and Economics 3
- 5170:620 The Principalship 3
- 5170:705/6 Internship (fall and spring) 4

Administration Specialists

The Department of Educational Foundations and Leadership offers programs leading to Educational Administrative Specialist licenses granted by the Ohio Department of Education. Each of these specialist licensure programs consists of a general administration master’s degree and a post-mester’s block of required courses.

Administrative Specialist: Business Management

(admissions temporarily suspended)

Master’s Requirements

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophy of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Post-Master’s Requirements** – 21 credits:
  - 5170:601 Principles of Educational Administration 3
  - 5170:603 Management of Human Resources 3
  - 5170:604 Seminar: Educational Psychology 3
  - 5170:606 Topical Seminar in Educational Technology 3
  - 5170:640 Techniques of Research 3

- **Total**: 34 credits

Administrative Specialist: Educational Research

Master’s Requirements

- **Foundation Studies** – 18 credits:
  - 5100:600 Philosophy of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration** – 15 credits:
  - 5170:601 Principles of Educational Administration 3
  - 5170:604 School-Community Relations 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:608 School Finance and Economics 3

- **Post-Master’s Requirements** – 16 credits:
  - 5170:704 Advanced Principles of Educational Administration 3
  - 5170:707 The Superintendent 3
  - 5170:744 Advanced Educational Statistics 3
  - 5170:766 Internship 3
  - 5170:801 Research Seminar 3

Administrative Specialist: Educational Staff Personnel Administration

Master’s Requirements

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophy of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration** – 21 credits:
  - 5170:601 Principles of Educational Administration 3
  - 5170:603 Management of Human Resources 3
  - 5170:604 Seminar: Educational Psychology 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:608 School Finance and Economics 3
  - 5170:610 Principles of Educational Supervision 3

- **Post-Master’s Requirements** – 14 credits:
  - 5170:704 Advanced Principles of Educational Administration 3
  - 5170:705 Decision Making in Educational Administration 3
  - 5170:707 The Superintendent 3
  - 5170:795/6 Internship 3
  - 6000:654 Industrial Relations 3

Administrative Specialist: Instructional Services

(Curriculum, Instruction, and Professional Development)

Master’s Requirements

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophy of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration** – 21 credits:
  - 5170:601 Principles of Educational Administration 3
  - 5170:603 Management of Human Resources 3
  - 5170:604 Seminar: Educational Psychology 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:608 School Finance and Economics 3
  - 5170:707 The Superintendent 3
Advisory Specialist: Pupil Personnel Administration

Foundation Studies – 12 credits:
5100:600 Philosophies of Education
5100:603 Psychology of Instruction for Teaching and Learning
5100:604 Seminar in Educational Psychology
5100:605 Topical Seminar in Educational Technology
5100:610 Principles of Educational Administration
5100:620 School Law
5100:621 School Finance and Economics
5100:624 Administration of Pupil Services
5100:625 Internship

Educational Administration – 21 credits:
5170:601 Principles of Educational Administration
5170:603 Management of Human Resources
5170:606 Evaluation in Educational Organizations
5170:607 School Law
5170:608 School Finance and Economics
5170:613 Administration of Pupil Services
5170:617 The Superintendent
5170:620 The Principalship
5170:636 Topical Seminar in Educational Technology
5100:640 Techniques of Research
5100:642 Seminar in Educational Psychology
5100:648 Seminar in Educational Organization and Administration of Guidance
5170:707 The Superintendent

Post-Master’s Requirements – 16 credits:
5600:631 Elementary School Guidance
5600:633 Secondary School Guidance
5800:665 Group Counseling
5800:669 Organization and Administration of Guidance Services
5170:704 Advanced Principles of Educational Administration
5170:7956 Internship

Administrative Specialist: School and Community Relations

Foundation Studies – 12 credits:
5100:600 Philosophies of Education
5100:604 Seminar in the Cultural Foundations of Education
5100:620 Psychology of Instruction for Teaching and Learning
5100:624 Seminar in Educational Psychology
5100:636 Topical Seminar in Educational Technology
5100:640 Techniques of Research
5100:642 Seminar in Educational Psychology
5100:648 Seminar in Educational Organization and Administration of Guidance

Educational Administration – 21 credits:
5170:601 Principles of Educational Administration
5170:603 Management of Human Resources
5170:606 Evaluation in Educational Organizations
5170:607 School Law
5170:608 School Finance and Economics
5170:620 The Principalship
5170:624 The Superintendent
5170:704 Advanced Principles of Educational Administration
5170:707 The Superintendent
5170:795 Internship

Post-Master’s Requirements – 16 credits:
5170:604 School Community Relations
5170:704 Advanced Principles of Educational Administration
7600:625 Theories of Mass Communication
7600:626 Contemporary Public Relations Theory
7600:628 Internship

Administrative Specialist: Special Education (Exceptional Children)

Foundation Studies – 12 credits:
5100:600 Philosophies of Education
5100:604 Seminar in the Cultural Foundations of Education
5100:620 Psychology of Instruction for Teaching and Learning
5100:624 Seminar in Educational Psychology
5100:636 Topical Seminar in Educational Technology
5100:640 Techniques of Research
5100:642 Seminar in Educational Psychology
5100:648 Seminar in Educational Organization and Administration of Guidance

Educational Administration – 21 credits:
5170:601 Principles of Educational Administration
5170:603 Management of Human Resources
5170:606 Evaluation in Educational Organizations
5170:607 School Law
5170:608 School Finance and Economics
5170:620 The Principalship
5170:707 The Superintendent

Post-Master’s Requirements – 16 credits:
5610:540 Developmental Characteristics of Exceptional Individuals
5610:561 Seminar in Educational Curriculum Planning
5610:652 Seminar in Supervision of Instruction
5610:665 Program Development and Service Delivery Systems
5170:7956 Internship

Superintendent Program

Both teaching and administrative experience is required for the superintendent certification.

Foundation Studies – 12 credits:
5100:600 Philosophies of Education
5100:604 Seminar in the Cultural Foundations of Education
5100:620 Psychology of Instruction for Teaching and Learning
5100:624 Seminar in Educational Psychology
5170:601 Principles of Educational Administration
5170:604 School Community Relations
5170:606 Evaluation in Educational Organizations
5170:608 School Law
5170:613 The Superintendent
5170:624 The Principalship
5170:704 Advanced Principles of Educational Administration
5170:707 The Superintendent
5170:795 Internship
5610:636 Topical Seminar in Educational Technology
5100:640 Techniques of Research

Curriculum and Supervision – 6 credits:
5170:602 Management of Physical Resources
5170:604 Management of Human Resources
5170:608 School Finance and Economics
5170:617 The Principalship
5170:704 Advanced Principles of Educational Administration
5170:707 The Superintendent
5170:795 Internship

Electives (5 credits), to bring the program to a total of 60 graduate semester hours.

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 can range from advanced instructional technology to studies in educational psychology or the social/philosophical aspect of education. The student can elect to include a thesis or master's problem or take an additional six semester hours of coursework.

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 Theories of Instructional Technology
5100:572 Design and Production of Instructional Materials
5100:580 Workshop in Instructional Technology
5100:650 Topical Seminar in Computer-Based Education (may be repeated)
5100:652 Seminar on Educational Technology (may be repeated)
5100:654 Planning for Technology
5100:655 Field Experience: Master’s Project
5100:657 Independent Study: Master’s

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):
5100:986 Master’s Problem
5100:989 Master’s Thesis

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

Elementary Education (M.A.)
This program leading to a Master of Arts in Elementary Education is for elementary school teachers. Students complete foundation courses in education and in curriculum and instruction and an area of concentration such as reading, multicultural, middle, or elementary education. As a culminating activity, students apply theory to practice in their area of concentration through creative critical thinking.

- Foundation studies – nine credits.
  - 5500:600 Concepts of Curriculum and Instruction 3 or basic curriculum and instruction course in one's concentration area in curriculum and instruction.
  - 5500:605 Seminar in Trends and Issues in Curriculum and Instruction or seminar in trends and issues in one's concentration area in curriculum and instruction or a course that cuts across curriculum and instruction such as 5500:630 Multicultural Education in the United States, 5500:678 Microcomputer Applications for Secondary Teachers, or 5100:614 Planning for Technology
  - Area of concentration within curriculum and instruction approved by the advisor – 15 credits.
  - 5500:696 Master's Project or 5500:699 Master's Thesis 6
  - 36 total hours are required.

Certification in areas such as neither may be pursued as part of this degree, but coursework beyond the required 36 hours may be necessary in order to be eligible for certification.

Elementary Education with Certification (M.S.)
This program is open to highly qualified students who hold the B.A. or B.S. degree in certain fields (see program advisor or department chair). All requirements for certification must be met including the field and clinical/diagnostic experience.

- Foundation Studies – 10 credits:
  - 5100:600 Philosophies of Education 3 or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:600 Psychology of Instruction for Teaching and Learning 3 or 5100:642 Topical Seminar in Measurement and Evaluation 3
  - 5100:696 Field Experience: Master's (Section 001) 1

- Curricular and Instructional Studies – 11 credits
  - 5550:617 Elementary and Secondary Curriculum Seminar 3 or 5550:630 Field Experience (Section 011) 1
  - 5550:675 Microcomputer Applications for Elementary Teachers 3 or 5550:618 Advanced Instructional Techniques 3
  - 5550:696 Field Experience: Master's (Section 021) 1

- Field Experience (Student Teaching) – 11 credits:
  - 5550:695 Field Experience: Master's (Section 005) 5 or 5550:696 Field Experience: Master's (Section 006) 5
  - 5550:695 Field Experience: Master's (Section 006) 5 or 5550:696 Field Experience: Master's (Section 031) 1

Total Program: 32 credits

- A minimum of 29 additional undergraduate credits will be required for certification (licensure). A comprehensive exam is required. See Department of Curricular and Instructional Studies for complete list of requirements.

Physical Education and Health Education

Athletic Training for Sports Medicine
The Athletic Training program, requiring 35 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 experiences both on and off campus. Students interested in this program should contact the head athletic trainer (NHS-174 ext. 6056) as soon as possible so that you can be fully appraised of your individual situation.

- Foundation Courses:
  - 5100:640 Techniques of Research 3

- Required Courses
  - 3100:651 Human Physiology 4
  - 3100:652 Human Physiology 4
  - 3100:665 Advanced Cardiovascular Physiology 3

- Required Foundation Courses:
  - 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
  - 5100:624 Seminar: Educational Psychology 3

- Total: 6

Graduate Studies 53

Physical Education
The graduate program in physical education, requiring 33 credits, is designed for post-baccalaureate and inservice physical educators. The theme of the program is "physical educator as decision-maker". Training received in this program comes from two (2) areas: the foundations (6 cr.) and the program studies area of physical education (27 cr.). The emphasis in this curriculum is to provide answers to the questions "what I can learn about teaching and what decisions do I face as a professional educator." Successful completion of this program will meet a tenure requirement for Ohio public schools as well as for other states. Each student will be assigned an advisor who should be consulted with on a regular basis. In fact, advisor approval is required on certain course work.

- Required Foundation Courses:
  - 5100:600 Philosophies of Education 3
  - 5100:602 Classroom Management, Assessment, and Evaluation in Physical Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3

- Total: 12

- Required Program Studies Courses
  - 5550:605 Physiology of Motor Activity and Exercise 3
  - 5550:616 Statistics: Qualitative and Quantitative Methods 3
  - 5550:641 Advanced Athletic Injury Management 4
  - 5550:642 Therapeutic Modalities and Equipment in Sports Medicine 3
  - 5550:660 Special Topics: Pharmacology for Sports 3

At least two (2) credit hours from the following:
  - 5550:696 Physical Education: Master's 2-4
  - 5550:698 Master's Problem 2-4
  - 5550:699 Master's Thesis 4-6

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 parks programs, or private and public agencies which conduct outdoor/environmental education programs.

- Foundation Studies – nine credits.

- Required Foundation Courses:
  - 5100:640 Techniques of Research 3

Remaining six (6) credits to be chosen, with approval of adviser, from 5100:624 or 5100:660 course offerings or 5550:606 Statistics: Quantitative and Qualitative Methods.

- Required courses:
  - 5550:600 Application of Outdoor Education to the School Curriculum 4
  - 5550:602 Resources and Resource Management for the Teaching of Outdoor Education 4
  - 5550:656 Outdoor Pursuits 4
  - 5550:605 Outdoor Education: Special Topics 2-4
  - 5550:606 Outdoor Education: Rural Influences 3
  - 5550:695 Field Experience (at least 2 credits if only option selected) 2-6
  - 5550:696 Master's Problem 2-4
  - 5550:699 Master's Thesis 4-6

With the approval of the adviser, the student will select additional courses and/or workshops related to the graduate program.
This graduate program, requiring a minimum of 34 credits, is designed to prepare agencies with expertise needed to improve their programs. A minimum of 34 credits is required for American College of Sports Medicine certifications.

**Required Department Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:536</td>
<td>Foundations and Elements of Adapted Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>5550:601</td>
<td>Supervision and Administration of Physical Health Education, Recreation and Dance</td>
<td>3</td>
</tr>
<tr>
<td>5550:602</td>
<td>Motor Behavior</td>
<td>3</td>
</tr>
<tr>
<td>5550:604</td>
<td>Current Issues in Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>5550:605</td>
<td>Physical and Health Education: Instructional Strategies</td>
<td>3</td>
</tr>
<tr>
<td>5550:606</td>
<td>Physiology of Muscular Activity and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>5550:607</td>
<td>Statistics: Qualitative and Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>5550:609</td>
<td>Motivational Aspects of Physical Activity</td>
<td>3</td>
</tr>
<tr>
<td>5570:521</td>
<td>Comprehensive School Health</td>
<td>4</td>
</tr>
<tr>
<td>5550:595</td>
<td>Field Experience: Master’s</td>
<td>2 (minimum)</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:598</td>
<td>Master’s Problem</td>
<td>2 (minimum)</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:599</td>
<td>Master’s Thesis</td>
<td>2 (minimum)</td>
</tr>
</tbody>
</table>

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 developmental 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/equipment experiences to provide schools and agencies with expertise needed to improve their programs. A minimum of 34 graduate credits is required. Completion of this program will also afford the student an Ohio validation for teaching this content area.

**Required Foundation Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:601</td>
<td>Topical Seminar in the Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:620</td>
<td>Psychology of Instruction for Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5100:624</td>
<td>Seminar: Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Required Department Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:536</td>
<td>Foundations and Elements of Adapted Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>5550:551</td>
<td>Assessment and Evaluation in Adapted Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>5550:555</td>
<td>Motor Development of Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>5550:605</td>
<td>Physiology of Muscular Activity and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>5550:606</td>
<td>Statistics: Qualitative and Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>5550:695</td>
<td>Field Experience: Master’s</td>
<td>2</td>
</tr>
<tr>
<td>5610:956</td>
<td>Neuromotor Aspects of Physical Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>5610:967</td>
<td>Management of Strategies in Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**At least two (2) credits from among the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:695</td>
<td>Field Experience: Master’s</td>
<td>2-6</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:698</td>
<td>Master’s Problem</td>
<td>2-4</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:699</td>
<td>Master’s Thesis</td>
<td>4-6</td>
</tr>
</tbody>
</table>

**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 preparing for American College of Sports Medicine certifications.

**Required Foundation Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:620</td>
<td>Psychology of Instruction for Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5100:624</td>
<td>Seminar: Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Required Department Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:561</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:562</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:565</td>
<td>Advanced Cardiovascular Physiology</td>
<td>3</td>
</tr>
<tr>
<td>5550:605</td>
<td>Physiology of Muscular Activity and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>5550:606</td>
<td>Statistics: Qualitative and Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>5550:680</td>
<td>Special Topics in Health and Physical Education: Laboratory Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>7400:587</td>
<td>Sports Nutrition</td>
<td>3</td>
</tr>
</tbody>
</table>

**At least two (2) credits from among the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:695</td>
<td>Field Experience: Master’s</td>
<td>2 (minimum)</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:698</td>
<td>Master’s Problem</td>
<td>2 (minimum)</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:699</td>
<td>Master’s Thesis</td>
<td>2 (minimum)</td>
</tr>
</tbody>
</table>

**Electives: Select at least one (1) course from among the following and have adviser approval:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:502</td>
<td>Introduction to Instructional Computing</td>
<td>3</td>
</tr>
<tr>
<td>5100:541</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:561</td>
<td>Advanced Instructional Techniques</td>
<td>3</td>
</tr>
<tr>
<td>5550:601</td>
<td>Supervision and Administration of Physical Health Education, Recreation and Dance</td>
<td>3</td>
</tr>
<tr>
<td>5550:609</td>
<td>Motivational Aspects of Physical Activity</td>
<td>3</td>
</tr>
</tbody>
</table>

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**Secondary Education (M.A.)**

This program leading to a Master of Arts in Secondary Education is for secondary school teachers. Students complete foundation courses in education and in curriculum and instruction and an area of concentration such as English, mathematics, or secondary education. As a culminating activity, students apply theory to practice in their area of concentration through creative critical thinking.

**Foundation studies – nine credits:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:600</td>
<td>Concepts of Curriculum and Instruction</td>
<td>3</td>
</tr>
</tbody>
</table>

**Area of concentration within curriculum and instruction approved by the advisor – 15 credits:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:698</td>
<td>Master’s Project</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>5550:699</td>
<td>Master’s Thesis</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>36 total hours are required.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**A comprehensive exam is required.**

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**Secondary Education with Certification (M.S.)**

This program, which leads to a Master’s of Science with Certification, is open to highly qualified students who hold the B.A. or B.S. degree. All requirements for certification (licensure) must be met including the 600 hours of field and clinical experience.

**Foundation Courses – 10 credits:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:601</td>
<td>Topical Seminar in the Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:620</td>
<td>Psychology of Instruction for Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5100:642</td>
<td>Topical Seminar in Measurement and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>5100:695</td>
<td>Field Experience: Master’s</td>
<td>1</td>
</tr>
</tbody>
</table>

**Curricular and Instructional Studies (18):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5550:576</td>
<td>Microcomputer Applications for Secondary Teachers</td>
<td>3</td>
</tr>
<tr>
<td>5550:617</td>
<td>Elementary and Secondary Licensure Seminar</td>
<td>3</td>
</tr>
<tr>
<td>5550:819</td>
<td>Advanced Instructional Techniques</td>
<td>3</td>
</tr>
<tr>
<td>5550:819</td>
<td>Instructional and Management Practices</td>
<td>3</td>
</tr>
<tr>
<td>5550:629</td>
<td>Reading Programs in Secondary Schools</td>
<td>3</td>
</tr>
<tr>
<td>5550:695</td>
<td>Field Experience: Master’s</td>
<td>1</td>
</tr>
<tr>
<td>5550:695</td>
<td>Field Experience: Master’s</td>
<td>1</td>
</tr>
<tr>
<td>5550:695</td>
<td>Field Experience: Master’s</td>
<td>1</td>
</tr>
</tbody>
</table>

**A comprehensive examination is required.**

Total Program: 45 credits
Technical Education

The major objective of the technical education program is to prepare the instructor and other educational personnel for postsecondary educational institutions, industry, and public and private agencies engaged in the education and training of technicians and middle-level workers.

Program

- Foundation Studies – 12 credits:
  5100:602 Comparative and International Education (or 5100:604) 3
  5100:640 Techniques of Research (or 5100:642) 3
  5100:520 Introduction to Instructional Computing (or 5100:512) 3
  5100:620 Psychology of Instruction for Teaching and Learning (or 5100:710 with advisor’s permission) 3

- Professional Technical Education Courses – 12 credits:
  5400:500 Postsecondary Learner 3
  5400:530 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.
  5400:680 Internship in Technical Education 3

- A comprehensive examination must be passed.
- A cumulative portfolio will be evaluated as an exit requirement during the internship course.

Options (Select one for a total of 36 credits, depending on option.)

Teaching Option (12 credits) (Total credits required for this option - 36)
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.
  5400:515 Workplace Education for Youth and Adults 3
  or 5400:600 The Two-Year College 3

Training Option (12 credits) (Total credits required for this option - 36)
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.
  5400:515 Training in Business and Industry 3

Instructional Technology Option (12 credits) (Total credits required for this option - 36)
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.
  5100:630 Topical Seminar in Computer-Based Education 3
  5100:636 Topical Seminar in Educational Technology 3

Admission into these options has been temporarily suspended:

Guidance Option (12 credits) (Total credits required for this option - 36)
  5600:635 Community Counseling 3
  5600:647 Career Development and Counseling Across the Lifespan 3
  5600:xxx (Elective) 3
  5400:600 The Two-Year College 3

Supervision Option (12 credits) (Total credits required for this option - 36)
  5400:605 Advanced Systems Design for Technical Instruction 3
  5400:615 Advanced Techniques for Technical Instruction 3
  5400:620 Supervision of Technical Instruction 3
  5400:525 Workplace Education for Youth and Adults 3
  or 5400:600 The Two-Year College 3

Administration Option (12 credits) (Total credits required for this option - 36)
  5400:600 The Two-Year College 3
  5400:620 Supervision of Technical Instruction 3
  5400:661 Current Issues in Higher Education 3
  or 5190:xxx Higher Education Administration elective 3
College of Business Administration

Stephen F. Hallam, Ph.D., Dean
James T. Strong, Ph.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 UA'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 UA's MBA program should possess:

- The analytical and conceptual abilities needed to identify and cope successfully with ambiguous and unstructured business problems;
- A solid grounding in the basic business functions, with an emphasis on the integration of those functions and an understanding of how those functions are linked in the formulation and execution of business strategy;
- 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 1953 through the College of Business Administration. In 1958, graduate studies in business were begun. Both the undergraduate and graduate 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 programs only between 5:20 p.m. and 10:40 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 or both of the following eligibility requirements which are in conformity with the Graduate School and the college's accrediting agency (AACSB):

- Hold a 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 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 only the most qualified of the eligible applicants as determined by the CBA Graduate Admissions Committee. The committee will consider the following in making decisions: the difficulty of the applicant's undergraduate program; the length of time and activities since graduation; and the percentile 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 giving those reasons relevant to the situation which demonstrate the likelihood of success—the burden of proof is on the applicant.

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 44325-4805 (Institution code 1829). The GMAT test is administered world-wide 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 bulletins can be obtained from the Graduate Program in Business Office or the Educational Testing Service, Box 3958-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 courses to be transferred into any of the graduate business programs (10 law school courses into the J.D./M.Taxation program). These courses must be pre-approved by the director of graduate programs in the C.B.A. This nine 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) not 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 nine following areas: accounting, entrepreneurship, finance, health services management, international business, management, marketing, materials management, or quality management. 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
  6200:601 Financial Accounting  3
  6400:602 Managerial Finance  3
  6400:655 Government and Business  3
  6500:600 Management and Organizational Behavior  3
  6500:601 Quantitative Decision Making  3
  6500:602 Computer Techniques for Management  3
  6600:600 Marketing Concepts  3

- Functional Core (12 credits):
  
  6200:610 Accounting Management and Control  3
  6400:634 Financial Management and Policy  3
  6500:610 Operations Management  3
  6500:620 Strategic Marketing Management  3

- Professional Core (4 credits):
  
  6700:690 Professional Responsibility  1
  6700:692 International Business  1
  6700:694 Applied Business Documentation and Contact  1
  6700:696 Special Topics in Professional Development  1

- Quantitative Tools (3 credits):
  
  Student must complete one of the following courses:
  
  6200:664 Research and Quantitative Methods in Accounting  3
  6400:650 Administering Costs and Prices  3
  6500:662 Applied Operations Research  3
  6600:640 Business Research Methods  3

- Concentration (9 credits):
  
  The student must select 9 credits in a field of concentration (accounting, entrepreneurship, finance, health services management, international business, management, marketing, materials management, or quality management).

- Free Electives (3 credits):
  
  Student must select 3 credits of free electives outside area of concentration. Approval of Director is required.

- Integrative (3 credits):
  
  6500:695 Business Strategy and Policy, Domestic and International (restricted to students graduating within two semesters)  3

- Program Summary
  
  Foundation Core  24
  Functional Core  12
  Professional Core  4
  Quantitative Tools  3
  Concentration  9
  Free Elective  3
  Integrative  3
  Total Program  58

If the Foundation Core Courses are all waived, the program is 34 credits in length.

Concentration in International Business

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:
  
  3250:950 Comparative Economic Systems  3
  3290:560 Economic Development and Planning for Underdeveloped Countries  3
  3250:670 International Monetary Economics  3
  3250:671 International Trade  3
  3390:538 World Metropolitan Areas  3
  3392:560 Development Planning  3
  3390:633 Comparative Planning  3

3400:516 Modern India  3
3400:573 Latin America: The Twentieth Century  3
3400:575 Mexico  3
3700:526 Politics in the Middle East  3
3700:511 Theories of International Political Economy  3
3700:512 Global Environment Politics  3
3700:529 Latin American Politics  3
3870:561 Language and Culture  3

or any cross-cultural or cross-functional course approved by the Graduate MBA Director.

Concentration in Entrepreneurship

This program prepares potential entrepreneurs. It provides students with exposure to entrepreneurial activities and builds critical skills needed for entrepreneurial initiatives.

- Required:
  
  6500:508 Entrepreneurship  3
  6300:640 Financing the Entrepreneurial Venture  3
  6300:670 Managing Entrepreneurial Growth  3

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 this program will be eligible to sit for the Uniform CPA Examination under the Ohio 150-hour Legislation.

- Foundation Courses:
  
  6600:600 Marketing Concepts  3
  6400:602 Managerial Finance  3
  6500:603 Management and Organizational Behavior  3
  6200:621 Financial Accounting  3
  6200:623 Business Systems with Processing Applications  3
  6500:601 Quantitative Decision Making  3
  6400:623 Legal Aspects of Business Transactions  3
  3250:600 Foundations of Economic Analysis  3

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 total program, with foundation coursework, is 60 hours.

- Advanced Courses:
  
  - Required:
    
    6200:621 Corporate Accounting and Reporting  3
    6200:622 Corporate Accounting and Financial Reporting II  3
    6200:610 Accounting, Management and Control  3
    6200:655 Advanced Information Systems  3
    6200:530 Taxation I  3
    6200:531 Taxation II  3
    6200:540 Auditing  3
    3300:675 Writing for MBAs  3

  - Electives:
    
    One 600-level accounting elective  3
    Two 500- or 600-level non-accounting electives  6

*Foundation courses will be waived for students with recent study in the subject areas.

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:
  
  6200:601 Financial Accounting  3 credits
  6200:621 Corporate Accounting and Financial Reporting I  3 credits
  6200:622 Corporate Accounting and Financial Reporting II  3 credits
  6200:623 Legal Aspects of Business Transactions  3 credits
  6200:530 Taxation I  3 credits
  6200:531 Taxation II  3 credits

Graduate Studies 57
The Master of Science in Management program allows students to concentrate their advanced study in one of two areas: human resource management or information systems management. Because of the complex nature of these specializations, 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 introductory coursework for this program is termed a foundation core and consists of 24 credits which may be waived if the student has completed prior study in the field.

The remaining 30 credits of coursework consists of 12 credits of general management coursework, 15 credits of specialization courses and one 3-credit elective. If all foundation courses are waived, the program is 30 credits in length.

• **Required Master of Taxation Courses:**
  - 6500:650 Basic Tax Research: 1 credit
  - 6500:631 Corporate Taxation I: 3 credits
  - 6500:632 Taxation of Transactions in Property: 3 credits
  - 6500:633 Estate and Gift Taxation: 3 credits
  
- **Electives:**
  - Twenty credits of graduate taxation courses selected from courses numbered 6500:641-653.
- **Total Required Taxation Courses:** 30-48 credits

*In exceptional situations, subject to the approval of the Chair of the G.W. Davey College 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 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—Health Services 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. 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 44325-2901. 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 credits earned), and 25 credits for M.B.A. of advanced courses in the CBA plus nine 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 U.D./M.Tax. or 102 U.D./M.B.A. credits is required, depending on the master's program pursued. More credits may be required for the master's degree if 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**

*Choice of Concentration Electives:
  - Accounting (choose 6 credits)
  - 9200:639 Estate and Gift Taxation
  - 9200:640 Individual Taxation
  - 9200:641/642 Corporate Taxation, I, II
  - 9200:665 Taxation of Partnerships
  - 9200:674 Current Problems in Taxation
  - 9200:675 Special Problems in Estate Planning
  - 9200:680 Qualified Persons and Profit Sharing
  - 9200:685/696 Wills, Trusts and Estates I, II

*Required Master of Taxation Courses (Select 3 credits):*
  - 6500:655 Compensation Administration: 3 credits
  - 6500:662 Organizational Behavior: 3 credits
  - 6500:653 Organizational Theory: 3 credits

**Human Resource Management (HRM) (15 credits)**

- 6500:650 Fundamentals of Human Resource Administration: 3 credits
- 6500:654 Labor Management Relations: 3 credits
- 6500:655 Compensation Administration: 3 credits
- 6500:652 Organizational Behavior: 3 credits
- 6500:653 Organizational Theory: 3 credits
Finance (choose 6 credits)
9200:629 Commercial Law II
9200:635 Bankruptcy Law
9200:639 Estate and Gift Taxation
9200:652 Land Use Planning
9200:671 Securities Regulation
9200:675 Special Problems in Estate Planning
9200:680 Qualified Pensions and Profit Sharing
9200:685/686 Wills, Trusts and Estates I, II
9200:691 International Investments

International Business (choose 6 credits)
9200:649 International Law
9200:676 International Trade
9200:691 International Investments and the European Economic Community

Management (choose 6 credits)
9200:637 Equal Opportunity Law
9200:650 Labor and Employment Law
9200:651 Labor Arbitration and Collective Bargaining
9200:659 Lawyer as Negotiator
9200:660 Workers' Compensation
9200:672 Seminar in Business Planning
9200:679 Labor Law

Marketing (choose 6 credits)
9200:627 Commercial Law I
9200:669 Lawyer as Negotiator
9200:682 Media Law
9200:687 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

Mark S. Auburn, Ph.D., Interim Dean
John D. Bee, 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.

MASTER’S DEGREE

Family and Consumer Sciences
A program of study is offered leading to the Master of Arts in Family and Consumer Sciences 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 Family and Consumer Sciences 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 family and consumer sciences as an interdisciplinary field;
  – core courses in the area of specialty;
  – option electives and cognate electives, selected in consultation with academically advised, from within School or in another discipline. Those are chosen to strengthen student’s professional goals.
• Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.
• Complete a master’s thesis or a master’s 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 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 or proposal for a 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

Child Development Option
• Core Courses:
  7400:605 Developmental Parent-Child Interactions
  7400:610 Child Development Theories
  7400:665 Development in Infancy and Early Childhood

• Option Electives
  Select 12 credits from the following courses with approval of advisor (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
  7400:504 Adolescence in the Family Context
  7400:542 Human Sexuality
  7400:545 Public Policy and American Families
  7400:548 Before and After School Child Care
  7400:560 Organization and Supervision of Child-Care Centers
  7400:566 Parent Education
  7400:607 Family Dynamics
  7400:616 Infant and Child Nutrition
  7400:661 Family and Consumer Law
  7400:660 Programming for Child-Care Centers
  7400:688 Practicum in Home Economics and Family Ecology
• Cognate Electives
  Select 7 credits with approval of advisor from within the School of Family and Consumer Sciences 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
  7400:699 Master’s Thesis
  Total

Child Life Option
• Core Courses:
  7400:651 Child in the Hospital
  7400:655 Practicum: Establishing and Supervising a Child Life Program
  7400:656 Orientation to the Hospital Setting
  7400:656 Child Life Internship

• Option Electives
  Select 10 credits with approval of advisor 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
  7400:504 Adolescence in the Family Context
  7400:542 Human Sexuality
  7400:560 Organization and Supervision of Child-Care Centers
  7400:565 Seminar in Home Economics (Child Life Topics)
  7400:566 Parent Education
  7400:605 Developmental Parent-Child Interactions
  7400:610 Child Development Theories
  7400:616 Infant and Child Nutrition
  7400:660 Programming for Child-Care Centers
  7400:665 Development in Infancy and Early Childhood
• Cognate Electives
  Select 6 credits with approval of advisor from within the School of Family and Consumer Sciences 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
  7400:699 Master’s Thesis
  Total

Clothing, Textiles and Interiors Option
• Core Courses:
  7400:634 Material Culture Studies
  7400:650 Trends of Fashion
  7400:677 Social Psychology of Dress and the Environment

• Options Electives
  7400:518 History of Interior Design I
  7400:519 History of Interior Design II
  7400:523 Professional Image Analysis
  7400:626 Advanced Textiles
  7400:627 Textile and Apparel Industry
  7400:635 Principles and Practices of Interior Design
  7400:636 Textile Conservation
  7400:657 Historic Costume to 1800
  7400:658 History of Fashion Since 1780
  7400:661 Problems in Design
  7400:688 Practicum in Home Economics and Family Ecology
  7400:696 Individual Investigation in Home Economics and Family Ecology
- Cognate Electives:
  Select 6 credits with approval of adviser from courses within the School of Family and Consumer Sciences 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 10

Family Development Option
- Core Courses:
  7400:502 Family in Life-Span Perspective 3
  7400:507 Family Dynamics 3
  7400:651 Family and Consumer Law 3

- Option Electives
  Select 12 credits from the following courses approved by 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
  7400:506 Family Financial Management 3
  7400:540 Family Crisis 3
  7400:542 Human Sexuality 3
  7400:545 Public Policy and American Families 3
  7400:546 Culture, Ethnicity and the Family 3
  7400:596 Parent Education 3
  7400:601 Families in Transition 2
  7400:603 Family Relationships in Middle and Later Years 2
  7400:605 Developmental Parent-Child Interactions 3
  7400:610 Child Development Theories 3
  7400:688 Practicum in Home Economics and Family Economics 3

- Cognate Electives:
  Select 7 credits with the approval of adviser from within the School of Family and Consumer Sciences 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 10

Food Science Option
- Core Courses:
  7400:575 Analysis of Food 3
  7400:576 Developments in Food Science 3
  7400:520 Experimental Foods (if taken at the undergraduate level, choose 3 additional credits from option electives) 3

- Option Electives
  Select 9-12 credit hours with the approval of adviser from among the following (if a course has been taken at the undergraduate level, other courses must be selected):
  3100:500 Food Plants 2
  3260:540 Special Topics: Economics and Food Problems 3
  7400:574 Cultural Dimensions of Food 3
  7400:585 Seminar in Home Economics and Family Ecology Food Science topics 2-3
  7400:570 The Food Industry: Analysis and Field Study 3
  7400:503 Advanced Food Preparation 3
  7400:524 Nutrition in the Life Cycle 3
  7400:624 Advanced Human Nutrition I 3
  7400:625 Advanced Human Nutrition II 3
  7400:688 Practicum in Home Economics and Family Economics 3

- Cognate Electives:
  Select 5-8 credits with approval of adviser from within the School of Family and Consumer Sciences 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 10

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.

The graduate faculty of the School of Family and Consumer Sciences 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 family and consumer sciences 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 26 credits of graduate study, the written comprehensive examination, and an approved prospectus for a thesis or project.
- Complete a thesis or a 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:
  4400:604 Orientation to Graduate Studies in Home Economics and Family Ecology 1

- Core Courses:
  4400:654 Advanced Human Nutrition I 3
  4400:655 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.

- 3100:561 Human Physiology I 4
- 3100:562 Human Physiology II 4
- 3100:565 Cardiovascular Physiology 3
- 3100:584 Pharmacology 3
- 3100:570 Medical Physiology, Pathophysiology, and Pharmacology 3
- 3100:596 Research in the Biology of Aging 3
- 3100:597 Biochemistry Lecture I 3
- 3100:598 Biochemistry Lecture II 3
- 3200:520 Experimental Foods 3
- 3400:525 Nutrition in the Life Cycle 3
- 3400:540 Cultural Dimensions of Foods 3
- 3400:576 Developments in Food Science 3
- 3400:580 Community Nutrition I - Lecture 3
- 3400:581 Community Nutrition I - Lecture 3
- 3400:582 Community Nutrition II - Lecture 3
- 3400:677 Sports Nutrition 3
- 3400:688 Practicum in Dietetics 3
- 3400:689 Professional Preparation for Dietetics 1
- 3400:640 Nutrition in Diminished Health 3

Cognate Electives (9 to 11 credits required)
Select with the approval of adviser from among the following or other courses that strengthen the student's goals.

- 3470:654 Statistics for the Health Sciences 4
- 3500:675 Social Gerontology 3
- 3500:676 Techniques of Counseling 3
- 3500:677 Management and Organizational Behavior 3
- 3500:678 Computer Techniques for Management 3

Note: The M.S. in Nutrition and Dietetics is not a route to becoming a Registered Dietitian (R.D.). Students interested in becoming an R.D. should contact the School for proper course selection, some of which can be done at the graduate level.
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.
- For the composition option, compositions representing the applicant's techniques are required.
- The options in music education, music theory, and music history and literature require an interview with faculty in the appropriate area.

The student should consult with the coordinator of Graduate Studies in Music for additional information regarding the individualized nature of each option.

For the performance option in voice, a proficiency equal to two semesters each of Italian, German and French are required for completion of the Master of Music Degree in Voice Performance. If the student lacks background in any of these languages, auditing of undergraduate courses is required.

After completion of all course work, the student must pass an examination covering the graduate program. This examination is individualized for each candidate's unique program.

**Composition Option**

- **Music core courses** – eight credits (to be selected):
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:566 Advanced Conducting: Choral 2
  - 7500:616 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/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 Chamber Recital 1
  - 7500:699 Master's Thesis 4-6
  - 7510:616 Ensemble (participation in two ensembles required) 2
  - 7520:642 Applied Composition 8

- **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 (summer) 3
  - 7500:612 Practices and Trends in Music Education (fall) 3
  - 7500:614 Measurement and Evaluation in Music Education (spring) 3
  - 7500:699 Master's Thesis 4-6

- **Additional music/education courses** – select 17-19 credits with approval of music education and graduate advisers. Choices may include the following:
  - 7500:675 Seminar in Music Education 6
  - 7500:697 Advanced Problems in Music Education 8
  - 7500:590 Music Workshops 6
  - 7520:5-6- Applied 6
  - 7510:6- Ensemble 2
  - 7500:5-6- Other music courses 8
  - 5100:5-6- Educational Foundations and Leadership 4
  - 5170:5-6- General Administration 4
  - 5500:5-6- Curricular and Instructional Studies 4

**Non-Thesis Option** – 34 credits

- **Required Music Education Core Courses** – 9 credits
  - 7500:611 Foundations of Music Education (summer) 3
  - 7500:612 Practices and Trends in Music Education (fall) 3
  - 7500:614 Measurement and Evaluation in Music Education (spring) 3

- **Additional music/education courses** – select 25 credits with approval of music education and graduate advisers. Choices may include the following:
  - 7500:675 Seminar in Music Education 6
  - 7500:697 Advanced Problems in Music Education 8
  - 7500:590 Music Workshops 6
  - 7520:5-6- Applied 6
  - 7510:6- Ensemble 2
  - 7500:5-6- Other music courses 8
  - 5100:5-6- Educational Foundations and Leadership 4
  - 5170:5-6- General Administration 4
  - 5500:5-6- Curricular and Instructional Studies 4

**Music Education Option: General Music Emphasis**

**Thesis Option** – 32 credits

- **Required Music Education Core Courses** – 13-15 credits
  - 7500:611 Foundations of Music Education (summer) 3
  - 7500:612 Practices and Trends in Music Education (fall) 3
  - 7500:614 Measurement and Evaluation in Music Education (spring) 3
  - 7500:699 Master's Thesis 4-6

- **Additional music/education courses** – select 17-19 credits with approval of music education and graduate advisers. Choices may include the following:
  - 7500:675 Seminar in Music Education 6
  - 7500:697 Advanced Problems in Music Education 8
  - 7500:590 Music Workshops 6
  - 7520:5-6- Applied 6
  - 7510:6- Ensemble 2
  - 7500:5-6- Other music courses 8
  - 5100:5-6- Educational Foundations and Leadership 4
  - 5170:5-6- General Administration 4
  - 5500:5-6- Curricular and Instructional Studies 4

**Non-Thesis Option** – 34 credits

- **Required Music Education Core Courses** – 9 credits
  - 7500:611 Foundations of Music Education (summer) 3
  - 7500:612 Practices and Trends in Music Education (fall) 3
  - 7500:614 Measurement and Evaluation in Music Education (spring) 3

- **Additional music/education courses** – select 25 credits with approval of music education and graduate advisers. Choices may include the following:
  - 7500:675 Seminar in Music Education 6
  - 7500:697 Advanced Problems in Music Education 8
  - 7500:590 Music Workshops 6
  - 7520:5-6- Applied 6
  - 7510:6- Ensemble 2
  - 7500:5-6- Other music courses 8
  - 5100:5-6- Educational Foundations and Leadership 4
  - 5170:5-6- General Administration 4
  - 5500:5-6- Curricular and Instructional Studies 4
### Music Education Option: Choral Emphasis

**Thesis Option** – 32 credits
- Required Music Education Core Courses – 13-15 credits
  - 7500:611 Foundations of Music Education (summer) 3
  - 7500:612 Practices and Trends in Music Education (fall) 3
  - 7500:614 Measurement and Evaluation in Music Education (spring) 3
- Additional music/education courses – select 12-17 credits with approval from music education and graduate advisers. Choices may include the following:
  - 7500:675 Seminar in Music Education* 6
  - 7500:687 Advanced Problems in Music Education* 8
  - 7500:590 Music Workshop* 6
  - 7500:550 Advanced Problems in Music Education* 8
  - 7500:600 Music Workshop* 6
  - 7510:6— Ensemble 2
  - 7510:5— Other music courses 8
  - 5500:5— General Administration 4
  - 5500:5— Curricular and Instructional Studies 4

*Topics related to choral music

**Non-Thesis Option** – 34 credits
- Required Music Education Core Courses – 9 credits
  - 7500:611 Foundations of Music Education (summer) 3
  - 7500:612 Practices and Trends in Music Education (fall) 3
  - 7500:614 Measurement and Evaluation in Music Education (spring) 3
- Additional music/education courses – select 25 credits with approval of music education and graduate advisers. Choices may include the following:
  - 7500:675 Seminar in Music Education* 6
  - 7500:687 Advanced Problems in Music Education* 8
  - 7500:590 Music Workshop* 6
  - 7500:550 Advanced Problems in Music Education* 8
  - 7500:550 Music Workshop* 6
  - 7500:550 Other music courses 8
  - 5100:5— Educational Foundations and Leadership 4
  - 5100:5— General Administration 4
  - 5500:5— General Administration 4
  - 5500:5— Curricular and Instructional Studies 4

*Topics related to choral music

### Music History and Literature Option
- Music core courses – eight credits (to be selected):
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:568 Musical Styles and Analysis IV (20th Century) 2
  - 7510:6— Ensemble (participation required in two ensembles) 2
  - 7500:697 Advanced Problems in Music 4
- Major required courses – 20-22 credits:
  - 7500:551 Introduction to Musicology 2
  - 7500:562 Music History Survey: Middle Ages and Renaissance 2
  - 7500:562 Music History Survey: Baroque 2
  - 7500:562 Music History Survey: Classic and Romantic 2
  - 7500:625 Graduate Bibliography and Research in Music 2
  - 7500:697 Advanced Problems in Music 4
  - 7500:698 Master's Thesis 4

- Additional music courses - two to four credits.
  - Graduate-level (music) workshops, applied music and/or courses to be selected by the student and adviser.
  - A minimum reading proficiency in German is required. If a student lacks background in this language, completion of undergraduate courses is required.

- Electives – two to four credits.

To be selected by the student and adviser. Areas include music courses in other disciplines in which student obtains permission of instructor.

Degree Total: 34-36 credits

### 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 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
  - 7500:568 Musical Styles and Analysis IV (20th Century) 2
  - 7500:590 Music History Survey: Middle Ages and Renaissance 2

- Major required courses – 26-28 credits:
  - 7500:611 Instructional Programming in Music for the Microcomputer 3
  - 7500:616 Musical Styles and Analysis IV (20th Century) 2
  - 7500:619 Theory and Pedagogy 2
  - 7500:637 Advanced Problems in Music 4
  - 7500:689 Master's Thesis 46
  - 7510:6— Ensemble (participation in two ensembles sequences) 2
  - 7500:626 Music Technology 3
  - 7500:627 Computer Studio Design 2

- Electives – 0-2 credits.

To be selected by the student and adviser.

Degree Total: 33-36 credits

### Performance Option in Accompanying

- **Music core courses – Eight credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:568 Musical Styles and Analysis IV (20th Century) 2
  - 7500:568 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:568 Musical Styles and Analysis IV (20th Century) 2
  - 7500:568 Master's Thesis 4
  - 7500:568 Master's Thesis 2
  - 7500:568 Master's Thesis 2
  - 7500:568 Master's Thesis 2

- Major required courses – 23-25 credits:

Select either 7500:626 or 7500:633

- 7500:562 Repertoire and Pedagogy: Organ 3
- 7500:633 Teaching and Literature: Puccini and Harpsichord 2
- 7500:640 Advanced Accompanying I 1
- 7500:641 Advanced Accompanying II 1
- 7500:642 Advanced Accompanying III 1
- 7500:643 Advanced Accompanying IV 1
- 7500:666 Advanced String Literature 3
- 7500:689 Graduate Final to be completed in a minimum of two performance media 2

- Electives – two credits.

- Graduate-level (music) courses, advanced problems, workshops and/or applied lessons, to be selected by the student and adviser.

- Degree total: 33-36 credits

Note: A minimum pronunciation proficiency is required in Italian, German and French. If the student lacks background in any of these language requirements, completion of undergraduate courses is required.

All candidates for this degree must accompany a minimum of three solo to ensemble recitalson instrumental and vocal. These can be done as part of 7500:697.

**Two semesters ensemble participation required for degrees completed in two semesters. Four semesters ensemble participation required for degrees completed in four semesters.**
Performance Option in Winds, String Percussion

- Music core courses: eight credits to be selected:
  750:555 Advanced Conducting: Instrumental 2
  750:566 Advanced Conducting: Choral 2
  750:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  750:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  750:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Straus) 2
  750:621 Music History Survey: Middle Ages and Renaissance 2
  750:622 Music History Survey: Baroque 2
  750:623 Music History Survey: Classic and Romantic 2
  750:624 Music History Survey: 20th Century 2

- Major required courses – 18-18 credits:
  750:618 Musical Styles and Analysis IV (20th Century) 2
  751:6— Ensemble participation in two ensembles required** 2-4
  752:6— Applied Music (select appropriate instrument) 8

- Select one of the following as appropriate to major instrument:
  750:630 Teaching and Literature: Brass Instruments 2
  750:631 Teaching and Literature: Woodwind Instruments 2
  750:632 Teaching and Literature: Percussion Instruments 2
  750:634 Teaching and Literature: String Instruments 2
  750:698 Graduate Recital

- Additional music courses – six credits.*
  Graduate-level (music) workshops, applied lessons, advanced problems and/or courses to be selected by student and adviser.

- Electives – four credits. *
  Additional music courses – six credits.

Degree total: 34-36 credits.
Note: No more than a total of 16 credits of 7520 courses may be applied to the degree.

Performance Option in Voice

- Music core courses: eight credits to be selected:
  750:555 Advanced Conducting: Instrumental 2
  750:566 Advanced Conducting: Choral 2
  750:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  750:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  750:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Straus) 2
  750:621 Music History Survey: Middle Ages and Renaissance 2
  750:622 Music History Survey: Baroque 2
  750:623 Music History Survey: Classic and Romantic 2
  750:624 Music History Survey: 20th Century 2

- Major required courses – 20-22 credits:
  750:618 Musical Styles and Analysis IV (20th Century) 2
  750:665 Vocal Pedagogy 3
  750:696 Advanced Song Literature 3
  750:698 Graduate Recital 2
  751:6— Ensemble participation in two ensembles required** 2-4
  752:624 Applied Voice 8

- Additional music courses – two credits (suggested minimum):
  Graduate-level (music) courses, workshops, advanced problems and/or applied lessons, to be selected by student and adviser.

- Electives – four credits.
  Additional music courses – two credits (suggested minimum).

Degree total: 34-36 credits.

Performance Option in Keyboard

- Music core courses: eight credits (to be selected):
  750:555 Advanced Conducting: Instrumental 2
  750:566 Advanced Conducting: Choral 2
  750:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  750:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  750:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Straus) 2
  750:621 Music History Survey: Middle Ages and Renaissance 2
  750:622 Music History Survey: Baroque 2
  750:623 Music History Survey: Classic and Romantic 2
  750:624 Music History Survey: 20th Century 2

- Major required courses – 18-21 credits:
  750:618 Musical Styles and Analysis IV (20th Century) 2
  (Select either 750:562 or 750:633)
  750:665 Vocal Pedagogy: Organ 2
  750:633 Teaching and Literature: Piano and Harpsichord 2
  750:697 Advanced Problems in Music 2
  750:698 Graduate Recital 2
  751:6— Keyboard Ensemble (participation in two ensembles required)** 2-4
  752:624 Applied Music (piano, organ and/or harpsichord) 8

- Additional music courses – three to four credits.
  Graduate-level (music) courses, advanced problems, workshops and/or applied lessons, to be selected by the student and adviser.

- Electives – four credits.
  Areas may include graduate-level courses in other disciplines, such as theatre arts, for which the student obtains permission of instructor, or additional music courses, as determined by the student and adviser.

Degree total: 34-36 credits.

Theory Option

- Music core courses – six credits (to be selected):
  750:553 Bibliography and Research 2
  750:555 Advanced Conducting: Instrumental 2
  750:556 Advanced Conducting: Choral 2
  750:621 Music History Survey: Middle Ages and Renaissance 2
  750:622 Music History Survey: Baroque 2
  750:623 Music History Survey: Classic and Romantic 2
  750:624 Music History Survey: 20th Century 2

- Major required courses – 26-28 credits:
  750:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  750:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  750:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Straus) 2
  750:618 Musical Styles and Analysis IV (20th Century) 2
  750:619 Theory and Pedagogy 2
  750:697 Advanced Problems in Music 8
  750:698 Master's Thesis 4
  751:6— Ensemble participation in two ensembles required** 2-4
  752:642 Applied Composition 2

- Additional music courses – zero to two credits.
  Graduate-level (music) workshops, applied music (other than composition), advanced problems, and/or courses to be selected by student and adviser.

- Electives – zero to two credits.
  To be selected by student and adviser. Areas may include graduate-level courses in other disciplines in which student obtains permission of instructor or 7520:642 Applied Composition.

Degree total: 34-36 credits.

**Two semesters ensemble participation required for degrees completed in two semesters. Four semesters ensemble participation required for degrees completed in four semesters.

Communication

The School of Communication offers the master of arts degree in a coordinated program of communication arts.

Entry 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:
  760:600 Introduction to Graduate Study in Communication 3
  760:603 Empirical Research in Communication 3
  760:624 Survey of Communication Theory 3
  760:625 Theories of Mass Communication 3
  760:670 Communication Criticism 3

School coursework – 12 credits.
Graduate electives – 6 credits
Thesis (699) or Project/Production (698) – 6 credits.
Total – 36 credits.
Theatre Arts

The School of Dance, Theatre, and Arts Administration offers a master of arts degree. The following will qualify the student in the field of theatre.

• Complete the general requirements for admission to the Graduate School.
• Complete an undergraduate major in the area of proposed graduate work or equivalent work as approved by the coordinator of the graduate theatre program.
• Complete 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).

Theatre Option

Complete a minimum of 36 credits distributed as follows:

- School core courses - 24 credits:
  7800:620 Introduction to Graduate Studies
  7800:641 Problems in Directing
  7800:645 Seminar in Dramatic Literature
  7800:649 Graduate Acting: Techniques
  7800:658 History of Theatre
  7800:662 Seminar in Scene Design
  7800:699 Master's Thesis

- 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.

Arts Administration Option

• Complete a minimum of 45 credits,

• Required theatre arts courses (30-33 credits):
  7800:620 Introduction to Graduate Studies in Theatre Arts
  7800:625 Colloquium in the Arts
  7800:685 Audience Development
  7800:696 Principles of Arts Management
  7800:698 Fund Raising and Grantsmanship in the Arts
  7800:699 Arts Administration Practices and Policies
  7800:692 Legal Aspects of Arts Administration
  7800:693 Internship
  7800:699 Master's Thesis

• Required business courses (9 credits):
  6200:690 Special Topics in Accounting
  6500:600 Management and Organizational Behavior
  6600:600 Marketing Concepts
  6600:630 Marketing of Services

• Electives in related fields (6-8 credits):
  Options here include course work in business, computer science, urban studies, art, music, and theatre and dance.

• Complete an oral defense of the thesis.
• General electives

Speech-Language Pathology and Audiology

This program, leading to the M.A. in speech-language pathology and audiology, are designed to lead to professional certification by American Speech-Language-Hearing Association (ASHA) in speech-language pathology and/or audiology and licensure by the State of Ohio Board of Speech-Language Pathology and Audiology. To be eligible for admission to the program the candidate must:

• 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 also write comprehensive examinations during their final semester. Academic requirements within the school include:

For speech-language pathology majors:

- 7700:671 Research Methods in Communicative Disorders I
- 7700:672 Research Methods in Communicative Disorders II
- 7700:673 Research Methods in Communicative Disorders III
- 7700:674 Advanced Clinical Practicum: Speech-Language Pathology
- 7700:675 Externship: Speech Pathology and Audiology (student must register twice)

For audiology majors:

- 7700:671 Research Methods in Communicative Disorders I
- 7700:672 Research Methods in Communicative Disorders II
- 7700:673 Research Methods in Communicative Disorders III
- 7700:674 Advanced Clinical Practicum: Audiology
- 7700:675 Externship: Speech Pathology and Audiology (student must register twice)

Completion of 5610:693 Student Teaching in Speech Pathology or 5610:692 Student Teaching in Audiology may be substituted for one 7700:699 registration. 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 7700:679 Advanced Clinical Testing to fulfill this requirement.

• The following limitations on work toward the degree may be exceeded only with the approval 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 7700:687)
  - no more than 6 credits taken in disciplines other than speech-language pathology and audiology

• Only 7 credits of clinical practicum (7700:650/654/695 and 5610:650/693) may be applied toward completion of 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 only for 600 level courses. Graduate courses taken at the 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 (24 semester or 36 quarter credit hours completed in the social, behavioral and biological sciences, including one human biology course, and the humanities).
• 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.

**First Year Professional Foundation:**

- **Fall Semester**
  - 7750:601 Foundation Field Practicum 3
  - 7750:609 Social Work Practice with Small Systems 3
  - 7750:622 Fundamentals of Research I 3
  - 7750:631 Human Behavior and Social Environment: Small Social Systems 3
  - 7750:646 Social Welfare Policy I 3

- **Spring Semester**
  - 7500:602 Foundation Field Practicum 3
  - 7750:605 Social Work Practice with Large Systems 3
  - 7750:611 Dynamics of Race and Discrimination 3
  - 7750:623 Fundamentals of Research II 3
  - 7750:632 Human Behavior and Social Environment: Large Systems 3

**Second Year Concentrations (Direct Practice):**

- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:607 Advanced Practice with Small Systems I 3
  - 7750:647 Social Welfare Policy II 3
  - 7750:663 Psychopathology and Social Work 3
    - One elective 3

- **Spring Semester**
  - 7750:604 Advanced Field Practicum 3
  - 7750:608 Advanced Practice with Small Systems II 3
  - 7750:664 Single System Design 3
    - Two electives 6

**Second Year Concentrations (Macro Practice):**

- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:647 Social Welfare Policy II 3
  - 7750:674 Community Economic Systems and Social Policy Analysis 3
  - 7750:673 Introduction to Community Organization and Planning 3
    - One elective 3

- **Spring Semester**
  - 7750:604 Advanced Field Practicum 3
  - 7750:671 Social Work Administration 3
  - 7750:672 Strategies of Community Organization 3
  - 7750:675 Program Evaluation 3
    - One elective 3
College of Nursing

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 contributes to the health and well-being of society. The college is committed to serving culturally, racially, 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 certification.
- Provide a foundation for lifelong commitment to professional development and scholarship through continuing education and advanced study at the master’s and doctoral levels.
- Prepare nurses who are sensitive to 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 is individual, families and communities.

The Individual is seen as a complex whole whose existence involves patterns, dynamic changes, transformation and interdependence. The individual interacts within the environment in biological, psychological, social, spiritual, cultural and other dimensions. The individual is unique and universal. The individual is a thinking, feeling, interacting, evolving, creating, valuing being.

Families are individuals dynamically connected with each other over time 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, non-disease and quality of life. People have the right to participate in decisions affecting and effecting personal health.

Environment includes all living and nonliving dimensions with which the individual, family and community have interrelationships. The dynamic environmental interactions 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 nursing situation within the context of familial, societal and cultural meanings. The professional nurse uses knowledge from theories and research in nursing and other disciplines in providing nursing care. The role of the nurse involves the exercise of ethical, 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 interactions with the environment, knowledge and skill acquisition, development of critical thinking and self awareness. Self-expression enables the student to respond to the community characteristics 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 operationalize clinical decision-making. The student is prepared to function as a 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 a long 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 apply 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, 1-888-669-6666 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 all previous college work.
- Miller Analogies Test taken within the last five years with a minimum score of 50 or GRE taken in the last five years. During the past three years, the range of GRE scores has been verbal 400-600, quantitative 400-600, 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.

* National League for Nursing
** A baccalaureate degree in nursing from a foreign university which is recognized by The University of Akron.
**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, Gerontological Nursing, Child and Adolescent Health Nursing, and Mental Health. Graduates are prepared for advanced practice roles in education, administration, clinical nurse specialization, or nurse practitioners. The curriculum is based on theory and research in both nursing and 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 master's preparation of certified registered nurse anesthetists (CRNAs).

**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 practitioner, or nurse anesthetist. The graduate nursing curriculum requires between 36 and 45 credits, depending on the Advanced Practice Role selected by the student.

Core courses required of all students:

- **8200:608** Physiological Concepts of Nursing Care 3
- **8200:603** Theoretical Basis for Nursing 3
- **8200:605** Computer Applications in Nursing 2
- **8200:607** Policy Issues in Nursing 2
- **8200:613** Nursing Inquiry 3
- **8200:618** Nursing Inquiry II 4-6
- or
- **8200:690** Master’s Thesis 1-6

Functional role courses selected by students based upon area of specialty:

- **Education:**
  - **8200:582** Nursing Curriculum Development 3
  - **8200:683** Evaluation in Nursing Education 3
  - **8200:684** Practicum: The Academic Role of the Nurse Educator 6

- **Administration:**
  - **8200:632** Fiscal Management in Nursing Administration 3
  - **8200:630** Resource Management in Nursing Settings 3
  - **8200:635** Organizational Behavior in Nursing Settings 3
  - **8200:638** Practicum: Administration I 5
  - **8200:639** Practicum: Administration II 5

- **Nurse Anesthesia**
  - **8200:640** Scientific Components of Nurse Anesthesia 3
  - **8200:641** Pharmacology for Nurse Anesthesia I 3
  - **8200:642** Introduction to Nurse Anesthesia 1
  - **8200:643** Principles of Anesthesia I 4
  - **8200:644** Pharmacology for Nurse Anesthesia II 3
  - **8200:645** Principles of Anesthesia II 4
  - **8200:647** Professional Role Seminar 2
  - **8200:649** Nurse Anesthesia Residency 0

- **CRNA-MSN Anesthesia Option:**
  - **8200:640** Scientific Components of Nurse Anesthesia 3
  - **8200:641** Pharmacology for Nurse Anesthesia I 3
  - **8200:642** Introduction to Nurse Anesthesia 1
  - **8200:643** Principles of Anesthesia I 4
  - **8200:644** Pharmacology for Nurse Anesthesia II 3
  - **8200:645** Principles of Anesthesia II 4
  - **8200:947** Professional Role Seminar 2

- **Child and Adolescent Health** (40 credits and meets eligibility requirement for certification) (see advisor for additional course in pediatric nutrition, 2 credits)
  - **8200:650** Pediatric/Adolescent Assessment 2
  - **8200:651** Child and Adolescent Health Nursing I 4
  - **8200:655** Child and Adolescent Health Nursing II 4
  - **8200:656** Pharmacology for Child and Adolescent Health Nursing 2
  - **8200:657** Child and Adolescent Health Nursing II 4
  - **8200:659** Practicum: Child and Adolescent Health Nursing 1

- **Liaison-Community Mental Health Nursing**
  - **8200:720** Topical Seminar: Guidance and Counseling (DSM IV) 3
  - **8200:612** Advanced Clinical Pharmacology 3
  - **8200:661** Liaison-Community Mental Health Nursing I 3
  - **8200:662** Psychopharmacology 2
  - **8200:665** Liaison-Community Mental Health Nursing II 4
  - **8200:667** Liaison-Community Mental Health Nursing III 4
  - **8200:669** Practicum: Liaison-Community Mental Health Nursing 3

- **Adult Gerontological Health**
  - **8200:671** Adult and Gerontological Health Nursing I 3
  - **8200:675** Adult and Gerontological Health Nursing II 4
  - **8200:677** Adult Health Nursing III 4
  - **8200:679** Practicum: Adult Health Nursing 3
  - **8200:680** Clinical Management I 2
  - **8200:682** Clinical Management II 2
  - **8200:684** Clinical Management III 2
  - **8200:610** Advanced Adult/Gerontological Assessment 3
  - **8200:612** Advanced Clinical Pharmacology 3

- **Clinical Nurse Specialization**
  - **8200:615** Advanced Clinical Practice Seminar 2

- **Adult Gerontological Nurse Practitioner Track** (43 credits and meets eligibility requirement for certification)
  - **8200:671** Adult and Gerontological Health Nursing I 3
  - **8200:675** Adult and Gerontological Health Nursing II 4
  - **8200:677** Adult Health Nursing III 4
  - **8200:679** Practicum: Adult Health Nursing 3
  - **8200:680** Clinical Management I 2
  - **8200:682** Clinical Management II 2
  - **8200:684** Clinical Management III 2
  - **8200:610** Advanced Adult/Gerontological Assessment 3
  - **8200:612** Advanced Clinical Pharmacology 3

*Note: Corequisites may be substituted for this course for the Administrative track.*

*Students in education are required to take an additional 9 credits of Advanced Nursing in Child and Adolescent Health, Liaison-Community Mental Health, Adult Gerontological Health, or Adult Gerontological Nursing.

**In addition to the listed courses, all nurse anesthesia students must complete a 15 month residency.**

***In addition to the listed courses, all adult anesthesia students must complete a 15 month residency.***

**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, a former faculty member.
- Miller Analogies Test taken within the last five years with a minimum score of 90 or Graduate Record Exam (GRE) taken within the last five years. During the past three years, the range of GRE scores has been: verbal 400-694, quantitative 400-695, and analytical 400-642.
- 300-word essay describing professional goals.
- Interview will be conducted by 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 supervised baccalaureate coursework and a minimum of 36 hours of graduate coursework. Students will receive 48 hours of undergraduate bypassed credit after successful completion of all undergraduate course requirements. This is in accordance with the current University policy for bypassed 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:**
  - **8200:225** Health Assessment 3
  - **8200:435** Nursing Research 3
  - **8200:450** Issues of Other Professional Nursing 3
  - **8200:465** Concepts and Theories of Professional Nursing 3
  - **8200:470** Community Health Nursing 4
  - **8200:488** 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 degrees 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. Whimbly, 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 Science in 1964. A Ph.D. program in Polymer Chemistry 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 1963 and a Department of Polymer Engineering in the College of Engineering in January 1964 with Professor J. L. White as director and department head to give thrust to polymer processing and engineering applications. In 1968 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 primary 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 polymers, materials and processes, and to disseminate that knowledge to the broader community of researchers, technologists, and manufacturers who employ that knowledge to their own aims.
- 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 process 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-day problems. 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 committee 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 2.75/4.0 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 with each application.

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 2.75/4.0 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 upon their background, a special non-degree admission may be given followed by full admission upon successful completion of a series of 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 courses of study and research in that field under the supervision of a faculty member. Research facilities of 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 a Doctor of Philosophy in Polymer Science must meet the following requirements:

- Complete a course of study prescribed by the student's advisory committee on the basis of the committee's judgment of the student's background and the result of any special examinations it might impose. This course will consist of a minimum of but usually more than, 36 credits in graduate courses, or their equivalent, plus sufficient Ph.D. research credits to make a total of 84 credits (exclusive of Master of Science thesis credit). Credits for participation in either Polymer Science or 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:
  - 4 credits of polymer chemistry courses:
    - 9871:601 Polymer Concepts
    - 9871:602 Synthesis and Chemical Behavior of Polymers
    - 9871:704 Condensation Polymerization
    - 9871:705 Free Radical Reactions in Polymer Science
    - 9871:708 Ionic and Monomer Insertion Reactions
  - 4 credits of polymer physical chemistry courses:
    - 9871:634 Polymer Structure and Characterization
    - 9871:675 Polymer Thermodynamics
  - 4 credits of polymer physical property courses:
    - 9871:631 Physical Properties of Polymers I
    - 9871:632 Physical Properties of Polymers II
  - 4 credits of polymer engineering and technology courses:
    - 9871:701 Polymer Technology I
    - 9871:702 Polymer Technology II
    - 9871:703 Polymer Technology III
  - 3 credits of polymer science laboratory:
    - 9871:613 Polymer Science Laboratory
- Completion of 18 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.
- Complete 9871:678/7 Polymeric Science Seminar I and II.
- Attendance 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.
- 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 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 screening of their qualifications and recommendation by the department head and dean. Students in Polymer Engineering will earn the degree of Doctor of Philosophy in Engineering. Requirements in the interdisciplinary field of Polymer Engineering for that degree are as follows:

- 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.
- Develop a plan of study approved by the student's advisory committee.
- Complete courses in the plan of study developed by the student advisory committee on the basis of the qualifying examination. A minimum of 96 credits of graduate work must be earned. A total of 48 credit hours of lecture courses and 48 credit hours of research must be completed. Twelve credit hours must be dissertation research.
- A student receiving a Master of Science degree from The University of Akron in Polymer Engineering may use all lecture course credits toward the 48 lecture course credit requirement.
- A student entering with a master's degree or graduate credits from another institution may be given up to 24 credit hours toward the lecture course requirement.
- All doctoral students must complete the Polymer Engineering core requirements for the Master of Science degree.
- Each candidate must pass a candidacy exam and must present a higher research proposal for approval by the advisory committee and taken after 90% of the course work specified in the plan of study has been completed. The candidacy exam may be based on the research proposal.
- Each candidate must 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.
- Completion of 11 of credits in the following required courses in polymer science:
  - 9871:601 Polymer Concepts
  - 9871:613 Polymer Science Laboratory
  - 9871:623 Physical Properties of Polymers I
  - 9871:651 Polymer Synthesis and Characterization
  - 9871:701 Polymer Technology I
- 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.
- Attendance 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 skills.
- 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 emphases of the graduate program in polymer engineering are in polymer processing, engineering performance and structural and rheological characterization 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:
    - 9841:611 Structural Characterization of Polymers with Electromagnetic Radiation
    - 9841:621 Rheology of Polymer Fluids
    - 9841:622 Analysis and Design of Polymer Processing Operators
    - 9841:631 Engineering Properties of Solid Polymers
    - 9841:641 Polymer-Materials Engineering Science
    - Total
    - 12
  - Polymer engineering elective:
    - 9841:621 Polymer Engineering Seminar
    - 9841:622 Analysis and Design of Polymer Processing Operators II
    - 9841:641 Engineering Aspects of Polymer Colloids
    - 9841:651 Polymer Engineering Laboratory
    - 9841:661 Polymerization Reactor Engineering
    - Total
    - 12
  - Approved engineering and science elective (a minimum of 3 credits of approved science or mathematics required):
    - 3450:681 Advanced Engineering Mathematics
    - 4300:681 Advanced Engineering Mathematics
    - 4920:622 Continuum Mechanics
    - 9871:613 Polymer Science Laboratory
    - 9871:651 Polymer Structure and Characterization
    - 9871:675 Polymer Thermodynamics
    - Total
    - 12
- Requirements:
  - Master's Thesis
  - Total
  - 33
- 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 John J. Zarski, Ph.D., Interim Department Chair

ADDITIONAL COUNSELING

This certificate program represents specialty training in addiction counseling. The curriculum emphasizes the empirical 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 currently hold a master's degree in counseling or 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.
- Complete an application to the program to the Counselor Education Admissions Committee in the Department of Counseling and Special Education.
- Complete a 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 addictions counseling setting.

Requirements

5600:670 Addiction Counseling I: Theory and Practice 3
5600:732 Addiction Counseling II: Assessment and Treatment Planning 3
5600:733 Addiction Counseling III: Models and Strategies of Treatment 3
5600:638 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, 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 practical politics.

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):

3700:507 Campaign Management I 3
3700:571 Campaign Management II 3
3700:672 Seminar: Political Influence and Organizations 3
3700:696 Internship in Government and Politics 3

Electives:

6x credits selected from the following (at least 3 credits must be from 3700:502, 540, 572, 573, 576, 578, or 630):

3700:502 Political and the Media 3
3700:540 Survey Research Methods 3
3700:572 Campaign Finance 3
3700:573 Voter Contact and Elections 3
3700:574 Political Campaign, Behavior and Electoral Policies 3
3700:575 American Interest Groups 3
3700:636 American Political Parties 3
3700:630 Seminar in 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 their course work 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. Clemenshaw, 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 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 core courses plus three hours of electives must be completed prior to the student's enrollment in the practicum course.

4700:561 Case Management for Children and Families I 3
4700:562 Case Management for Children and Families II 3
4700:563 Practicum in Cross-System 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 and Consumer Sciences
4700:501 Family-Life Patterns in the Economically Deseased Home 2
4700:504 Adolescence in the Family Context 3
4700:540 Family Crisis 3
4700:546 Culture, Ethnicity and the Family 3
4700:602 Family in Life-Span Perspective 3
4700:607 Family Dynamics 3
4700:610 Child Development Theories 3
4700:651 Family and Consumer Law 3
4700:655 Development in Infancy and Early Childhood 3
- Home-Based Intervention
1820:503 Home-Based Intervention Theory 3
1820:504 Home-Based Intervention Techniques and Practice 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 and linguistics are required. Other appropriate English courses in composition or linguistics may be substituted as optional courses with the permission of the director.

Required Courses:
- 3300:676 Seminar: Theory and Teaching of Basic Composition 3
- 3300:673 Theory of Composition 3
- 3300:674 Seminar: Research Methodologies in Composition 3

Optional Courses:
- 3300:570 History of English Language 3
- 3300:571 U.S. Dialects: Black and White 3
- 3300:589 Seminar in English: Grammatical Structures of Modern English 3
- 3300:575 Theory of Rhetoric 2
- 3300:588 Seminar: Sociolinguistics 3
- 3300:670 Modern Linguistics 3
- 3300:689 Seminar in English: Stylistics 3
- 3300:688 Seminar in English: Contextual Linguistics 3

DIVORCE MEDIATION

Helen Clemenshaw, 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 master's degree in a field in which the behavioral sciences, such as psychology, social work, counseling, and marriage and family therapy, are part of the educational background. Applicants planning to pursue the certificate must apply to the Center for Family Studies and the Graduate School for admission as non-degree students. Persons currently working toward a doctorate or Juris Doctor 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 background is required to enter the program will be quite diverse, 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:
- 1800:601 Divorce Mediation 3
- 1800:602 Divorce Mediation Practicum 2

Select at least one from each area:
- Law
  - 9200:638 Family Law 3
  - 9400:651 Family Consumer Law 3
- Accounting
  - 6200:601 Financial Accounting 3
  - 9000:621 Accounting for Lawyers 3
- Family
  - 5600:655 Marriage and Family Therapy: Theory and Techniques 3
  - 5600:667 Marital Therapy 3
  - 2400:637 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
- 5600:669 Systems Theory in Family Therapy 3
- 3400:540 Family Crisis 3
- 3400:590 Family and Divorce 2
- 3400:662 Family Life Span Perspective 2
- 5200:684 Alternatives to Dispute Resolution 3

GERONTOLOGY

Harvey Sterns, Ph.D., Director
Isadore Newman, Ph.D., Associate Director
Teny H. Albano, Ph.D., Program Coordinator
Gerontology Certificate Program, Practicum Coordinator
Jerome Kaplin, 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. The graduate certificate is to be received either with a Master's or Doctoral degree. Individuals who already hold a graduate degree may also pursue the certificate. The certificate 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 help 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.

B.S./M.D. students may complete Practicum/Internship and electives from courses available from the Institute or the Office of Geriatric Medicine and Gerontology, NEOUCOM.

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
- Consent with the director or a designated faculty member to formulate a program of study
- Receive written notification from the director of the Institute for Life-Span Development and Gerontology

Program
Minimum: 18 credits.

Core:
- 2000:680 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
- 3006:696 Practicum/Internship 3
- —— Research Methods Course 3*

Electives: **
- 3006:686 Retirement Specialist 2
- 3006:690 Workshop—Women: Midlife and Later Years 2
- 3700:680 Workshop—Aging: Procedural and Intervention 2
- 3700:680 Policy Problems: Aging*** 3
- 3750:670 Psychology of Adulthood and Aging 4
- 3800:678 Social Gerontology 3
- 3850:681 Cross-Cultural Perspectives in Aging 3
- 5400:541 Educational Gerontology Seminar 3
- 5400:681 Recent Issues in Higher Education: Life-Span and Community Education 3
- 6500:681 Graduate Seminar in Health Services Policy and Administration 2
- 6500:683 Health Services Systems Management (with permission) 3
- 3400:603 Family Relationships in Middle and Later Years 3
- 3400:650 Social Needs and Services for Older Adults and Aging 3

*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
HIGHER EDUCATION

Requirements*

This certificate program in higher education requires a minimum of 18 credits. The program of studies has been designed to serve the practicing or prospective college or university administrator or instructor.

Admission

All applicants to the program should have previously earned a bachelor's degree. Special admission for concurrent studies toward a master's degree and the higher education certificate may be allowed for persons currently employed in higher education. Students interested in 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.

Program

Courses and internships in higher education are directed toward the study of administrative and academic operations of colleges and universities. Specific program options include: administration, student services, curriculum, and instruction option, a higher education teaching internship developed in conjunction with the student's major academic adviser and the center staff may be anticipated. Internships may be completed at the University or at one of several cooperating institutions.

Required:

5100:703 Seminar: History and Philosophy of Higher Education 3
5190:500 Introduction to the Study of Higher Education 3
5190:600u Advanced Administrative Colloquium in Higher Education 1
5190:601 Internship in Higher Education 2
5190:602 Internship in Higher Education Seminar 1
Total 10

Options:

A student may select all three courses listed as "A" and omit "B" or may select an area of concentration and take one course from "A" under I, II, or III and the supporting course from "B" from the same heading.

Organization and Administration in Higher Education (II)

5190:516 Administration in Higher Education (A) 3
5190:525 Topical Seminar Higher Education 3
5190:626 Organization and Policy Development in Higher Education (B) 3

Student Services in Higher Education (III)

5190:526 Topical Seminar in Higher Education 3
5190:528 Student Services in Higher Education (A) 3
5190:527 The American College Student (B) 3

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

5190:530 Higher Education Curriculum and Program Planning (A) 3
5190:635 Instructional Strategies and Techniques for the College Instructor (B) 3

Total hours required: 18.

*The awarding of this certificate is contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average graduate certificate programs require a 3.00 grade-point average.

HOME-BASED INTERVENTION THERAPY

Richard N. Shepler, M.A.Ed., 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 will earn the certificate upon graduation in their degree program. Individuals 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 graduate 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 in home-based intervention. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that relate to services to at-risk children and their families. This course of study coordinates multidisciplinary training of personnel in home-based intervention and helps to meet the need for trained professionals in home-based intervention.

The undergraduate and graduate curriculum committees of the Center for Family Studies will oversee the certificate program and certify through the Director of the Certificate Programs in Home-Based Intervention that all requirements for the certificate have been completed.

Admission

To participate in the program at the graduate level, the student should:

• Be formally admitted to The University of Akron Graduate School.
• Make written application to the program countersigned by student's major academic adviser (if applicable).
• Have an interview with the Director of the Certificate Programs in Home-Based Intervention.
• Receive written notification for admission from the Director of the Certificate Programs in Home-Based Intervention.
• Consult with 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 36 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.

Requirements

Core Courses:

1820:503 Home-Based Intervention Theory 3
1820:504 Home-Based Intervention Techniques and Practice 3
1820:505 Home-Based Intervention Internship 3-5

Eligibility Courses:

Students must have completed at least 9 credits of coursework in theoretical frameworks from their discipline or related areas follows:

Theoretical Frameworks:

• Systems Theory
3850:620 General Systems Theory 3
6600:643 Theories and Philosophy of Counseling 3
5600:653 Manager and Family Therapy: Theory and Techniques 3
4000:607 Family Dynamics 3

• Developmental Theory
3850:512 Socialization: Child to Adult 3
4000:601 Family in Life Span Perspective 3
3850:605 Developmental Parent-Child Interactions 3
4000:610 Child Development Theories 3

• Therapeutic Theory
6600:691 Techniques in Counseling 3
6600:697 Mental Therapy 3
5600:669 Systems Theory in Family Therapy 3
7500:551 Social Work with Families 3

Elective Courses (9 credits):

Select one course from three different disciplines. (Must be outside student's major degree area)

Specific Skill Areas:

• Psychology
3740:530 Psychological Disorders of Children 4
3740:704 Theories of Personality 3

• Sociology
3850:550 Sociology of Mental Health 3
3850:698 Human Ecology 3
3850:763 Family and Health (Special Topics) 1-3

• Counseling
5600:550 Counseling Problems Related to Life/Den 3
5900:620 Multicultural Counseling 14
5900:620 Substance Abuse 14
5900:620 Human Sexuality 14

• Special Education
5610:540 Developmental Characteristics of Exceptional Individuals 3
5610:546 Developmental Characteristics of Behaviorally Disordered Individuals 3
5610:560 Working with Parents of MSPRI Individuals 3
5610:604 Education and Management Strategies for Parents of Exceptional Individuals 3
MID-CAREERS PROGRAM IN URBAN STUDIES

Requirements

The program will require the completion of 18 graduate credits in a single area or in several areas in the urban field. Upon 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 adviser from the approved list of courses. Courses offered by other departments will be accepted if they are urban related and will specifically contribute to the student’s objectives.

Core:

- 7750.600 Basic Analytical Research 3
- 7750.601 Advanced Research and Statistical Methods 3

Options:

- Geography/Urban Planning
  - 3350.630 Introduction to Planning Theory 3
  - 3350.630.1,2 Seminar: Urban Planning Design 3
  - 3350.630.1,2 Seminar: Planning Theory and Innovation 3
  - Electives 4

- Public Administration
  - 3980.651 Introduction to the Profession of Public Administration 3
  - 3980.660 Fiscal Analysis 3
  - 3980.663 Introduction to Public Policy Electives 4

Urban Research Methods

- 3980.670 Research for Futures Planning 3
- 3980.673 Computer Applications in Public Organizations Electives 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 Electives 4

Urban Studies

- 3980.602 History of Urban Development 3
- 3980.602 Electives 10

PARENT AND FAMILY EDUCATION

Helen K. Cleminshaw, 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. The certificate represents a comprehension 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 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 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.

- 7400.596 Parent Education 3
- 7400.603 Developmental Parent-Child Interactions 3
- 7400.605 Practicum in Parent and Family Education 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.

- Family and Consumer Sciences
  - 7400.596 Family Life Patterns in the Economically Deprived Home 3
  - 7400.603 Adolescence in the Family Context 3
  - 7400.604 Family Crisis 3
  - 7400.605 Culture, Ethnicity and the Family 3
  - 7400.606 Family in Life-Stage Perspective 3
  - 7400.607 Family Dynamics 3
  - 7400.610 Child Development Theories 3
  - 7400.625 Family and Consumer Law 3
  - 7400.655 Development in Infancy and Early Childhood 3

- Social Work
  - 7750.655 The Black Family 3
  - 7750.656 Social Work Practice: Family and Children 3
  - 7750.658 Social Welfare Policy and Services: Family and Children 3
  - 7770.651 Child and Adolescent Health Nursing II 3

- Psychology
  - 3750.530 Psychological Disorders of Children 4
  - 3750.726 Child Psychology 4
  - 3750.737 Psychology of Learning Disabilities 4

- Sociology
  - 3850.1,2 Socialization and Socialization 3
  - 3850.377 Family Analysis 3

- Educational Foundations
  - 5100.648 Individual and Family Development Across the Lifespan 3
  - 5100.721 Learning Opportunities 3

- Educational Guidance and Counseling
  - 5600.664 Multicultural Counseling 3
  - 5600.668 Individual and Family Development Across the Lifespan 3
  - 5600.673 Marriage and Family Therapy Theories and Techniques 3
  - 5600.674 Marital Therapy 3
  - 5600.689 Systems Theory in Family Therapy 3

- Special Education
  - 610.540 Developmental Characteristics of Exceptional Individuals 3
  - 610.559 Communication and Consultation with Parents and Professionals 3

- Multicultural Education (Curricular and Instructional Studies)
  - 5500.571 Characteristics of Culturally Diverse Populations 3

- Educational Administration
  - 5170.634 School-Community Relations 3
POST-MASTER'S ACUTE CARE
NURSE PRACTITIONER

The Post-Master's Acute Care Nurse Practitioner certificate program prepares acutecare nurse practitioners to provide advanced practice nursing care to acutely and/or critically ill adults. The program requires one calendar year of intensive study including advanced clinical practice and theory. The program is built upon a core of advanced assessment, pathophysiology, and pharmacology. Acute Care Nurse Practitioners are prepared to conduct comprehensive physical assessments, appraise health risks and promote health behaviors, order and interpret diagnostic tests, diagnose and manage commonly occurring health problems and diseases. The program consists of 15 credits of graduate level course work and 525 hours of clinical practice.

Admission Criteria
Hold an MSN degree from a professionally accredited nursing program.
Minimum of a 3.6 GPA on a 4.0 scale for the master’s degree program.
Recent acute/critical care experience (within the past three years).
A 300 word essay describing professional goals.
Completion of the following prerequisite courses: graduate level pharmacology, pathophysiology, and advanced assessment.
Completion of an interview with the selection committee.
Advanced Cardiac Life Support (ACLS) Certification.

Program of Study

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:691</td>
<td>Acute Care Nurse Practitioner I</td>
<td>4</td>
</tr>
<tr>
<td>8200:692</td>
<td>Clinical Management I</td>
<td>2</td>
</tr>
<tr>
<td>8200:693</td>
<td>Acute Care Nurse Practitioner II</td>
<td>4</td>
</tr>
<tr>
<td>8200:695</td>
<td>Acute Care Nurse Practitioner II</td>
<td>4</td>
</tr>
<tr>
<td>8200:696</td>
<td>Clinical Reasoning</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 15 credits

Admission

Admission criteria include the following:
Hold an MSN degree from a professionally accredited nursing program.
Minimum of a 3.0 GPA on a 4.0 scale for the master’s degree program.
A minimum of one year of clinical experience in a pediatric setting.
Complete an interview with the program coordinator.
Completion of the following prerequisite courses: Pathophysiology, Advanced Pediatric Assessment, Nutrition.

Program

The program consists of seven courses for a total of 15 credits. Students are required to complete a minimum of 600 clinical practice hours in conjunction with the Child and Adolescent Health Nursing courses.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:651</td>
<td>Child and Adolescent Health Nursing I</td>
<td>4</td>
</tr>
<tr>
<td>8200:655</td>
<td>Child and Adolescent Health Nursing II</td>
<td>4</td>
</tr>
<tr>
<td>8200:656</td>
<td>Pharmacology for Child and Adolescent Health</td>
<td>3</td>
</tr>
<tr>
<td>8200:672</td>
<td>Independent Study</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 15 credits

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)
  3250:630 Human Resource Policy 3
  3250:666 Public Finance 3
  3250:665 Seminar on Economic Planning 3

• Political Science (choose one)
  3700:641 The Policy Process 3
  3700:642 Methods of Policy Analysis 3
  3700:666 Seminar in Public Policy Agendas and Decisions 3
  3700:670 Seminar in the Administrative Process 3

• Sociology (choose one)
  3850:613 Sociology of Program Evaluation and Program Improvement 3
  3850:619 Political Sociology 3

In addition to the courses listed above, each student, after receiving the approval of his or her advisor, 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 and 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 3700:695 Internship in Political Science, a course which will permit a student to gain experience working with public officials, government agencies, political parties or interest groups. A student will normally enroll in this course after having completed at least 12 semester credits of work relating to public policy. A person with extensive administrative or governmental experience may be permitted, with the approval of the student's advisor, to substitute another course dealing with public policy in place of the internship in Political Science.

At least two-thirds of the credits earned for this certificate must be in 600- or 700-level courses. No more than three courses in which the student enrolls, of the seven required for the Graduate Certificate in Public Policy, may also apply toward meeting requirements for a graduate degree at The University of Akron.

The student must maintain at least a "B" (3.00) average in course work for the certificate.

Administration of the Program

The departments of economics, political science and sociology shall each annually select a representative for a coordinating committee from among those members of the graduate faculty who have special knowledge or expertise in the area of public policy. The committee shall meet in each year to 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. Pakenham, 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 non-native speakers through courses in modern and applied linguistics, in second language pedagogy and in related disciplines. Students who do not have English as a native language must demonstrate adequate proficiency in English with a valid TOEFL score of at least 550.
Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:572</td>
<td>Seminar in Teaching ESL: Theory and Method</td>
<td>3</td>
</tr>
<tr>
<td>3300:588</td>
<td>Seminar in English: Grammatical Structures of English</td>
<td>3</td>
</tr>
<tr>
<td>5500:570</td>
<td>Multicultural Education in the U.S.**</td>
<td>3</td>
</tr>
<tr>
<td>or 3000:589</td>
<td>Seminar in English: Sociolinguistics**</td>
<td>2:3</td>
</tr>
<tr>
<td>5500:543</td>
<td>Techniques for Teaching ESL in the Bilingual Classroom</td>
<td>4</td>
</tr>
</tbody>
</table>

1. The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.

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

TECHNICAL AND SKILLS TRAINING

Getler Jensrud, Ph.D., Coordinator

This certificate program in technical and skills training is a special course of study within the College of Education undergraduate and graduate programs to serve the practicing or prospective business and/or industrial-technical trainer.

Persons 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 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.

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 1994 must seek advisor approval before pursuing the Certificate. Only six hours of prior technical education coursework can be accepted toward 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, postbaccalaureate 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>5400:535</td>
<td>Instructional Techniques in Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>5400:590</td>
<td>Internship in Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>5500:520</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:

G. Edwin Wilson, Ph.D., Interim Associate Vice Provost for Research (interim chair)
Constance B. Bouchard, Ph.D., History
Roger Creel, Ph.D., Dean, Buchtel College of Arts and Sciences
Charles Oye, Ph.D., Dean, Graduate School
Frank Kelley, Ph.D., Dean, College of Polymer Science and Polymer Engineering
S. Graham Kelly, Ph.D., Interim Dean, College of Engineering
Noel L. Leathers, Ph.D., Interim Senior Vice President and Provost
Ted Mallo, J.D., Vice President and General Counsel; Secretary, Board of Trustees
Isadore Newman, Ph.D., Education; Associate Director, Life Span Development and Gerontology
Gerald M. Parker, Director, Research Services and Sponsored Programs
Mark B. Tausig, Ph.D., Sociology
James L. White, Ph.D., Director, Institute of Polymer Engineering

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 Interim Associate Vice Provost for Research, 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 Provost for Research 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 public comprehension 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 Rittgers, Ph.D., Director

This institute was established in 1979 to promote interdisciplinary studies in the rapidly growing areas of knowledge which overlap the fields of biology and medicine, on the one hand, and engineering and the physical sciences, on the other. It conducts seminars, courses and degree programs in biomedical engineering in association with the College of Engineering and individual departments.

In addition to its research and educational functions, the institute provides a research service to local hospitals and industry, as well as to private and government agencies. The premise for this program is that the combined resources of the University, Northeastern Ohio Universities College of Medicine and affiliated organizations will often permit more cost-effective solutions than would be possible by an individual or group doing the research independently.

The work of the institute is carried out by faculty of the Department of Biomedical Engineering in association with "members" selected from the faculties of The University of Akron and Northeastern Ohio Universities College of Medicine, as well as from the ranks of area physicians, engineers and scientists. The institute and the department occupy the third floor of the Olson Research Center on the north edge of the campus.

Center for Conflict Management

For information, contact the office, 201 Leigh Hall, (330) 972-6513.

The Center for Conflict Management provides students with the opportunity for an interdisciplinary program of study in resolving and managing conflicts in the areas of Business/Economics/Labor, Family/Community, and the International arena. 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 for Conflict Management in their area of specialization. The Center sponsors workshops for teachers, special campus programs, and research projects. It also collaborates with community organizations and similar programs on other campuses.

Center for Economic Education

Fred M. Carr, Ph.D., Director

The center exists to improve the economic literacy of individuals to help them function competitively 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. Foos, Ph.D., Interim Director

The Center for Environmental Studies matches the expertise of 96 affiliates in 33 disciplines with the needs of students seeking study and research opportunities in complex environmental issues. Since its founding in 1970, the center has sponsored, or in other ways supported, activities appropriate to the goal of attaining a quality environment for mankind.

The center coordinates special forums, workshops and seminars that address major issues. Examples include the National Energy Forum, the World Food Forum, and Evaluation of Environmental Data. Workshops on energy, natural history and environmental studies in England also emphasize the interdisciplinary approach to the resolution of issues.

Center for Family Business

Susan C. Hanlon, 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 on the special challenges inherent in multigenerational family enterprises.

Center for Family Studies

Helen K. Clemenshaw, 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 fellowship program in which outstanding faculty and community leaders are appointed as either fellows, adjunct fellows or senior fellows.

The Center offers free assistance in the following specialty areas: Divorce Mediation and Home-Based Intervention. For more information, please refer to the description of Interdisciplinary and 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.

William and Rita Fitzgerald Institute for Entrepreneurial Studies

In 1995, 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 encourage 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.

For information, contact the Institute, CBA 330, (330) 972-7038.

Institute 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 programming in international business. Thus, the College of Business Administration created the Institute for Global Business, which coordinates both credit and noncredit programming in international business. The Institute also develops short courses and seminars designed to help improve the international competitiveness of area business.

Institute for Life-Span Development and Gerontology

Harvey L. Stengs, Ph.D., Director
Isadore Newman, Ph.D., Associate Director
Terry H. Albanese, Ph.D., Program Coordinator, Gerontology Certificate Program, and Practicum Coordinator
Jerome Kaplan, Ph.D., Program Coordinator
Nursing Home Administrator Program

The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit certificate programs in gerontology, at the undergraduate and graduate levels. In addition, this certificate is included in the Ohio Board of Examiners of Nursing Home Administrators approved course of study in Nursing Home Administration which combines a Bachelor of Science degree in Management (Human Resource Management Concentration) with a Certificate in Gerontology.

The Institute of Life-Span Development and Gerontology has grown into a campuswide program involving more than 65 faculty in 23 different departments, representing 6 colleges. Students in the certificate programs carry out field placements at numerous community service settings. There are over 40 courses at the undergraduate and graduate levels. Research, education, training and service support has been received from the U.S. Administration on Aging, National Institute on Aging, U.S. Department of Education, Office of Special Education and Rehabilitation Services, National Institute on Disability and Rehabilitation Research, AARP Andrus Foundation, Ohio Department of Aging, and Area Agency on Aging 10B. The Institute also serves as a major site for the Rehabilitation Research and Training Center Consortium on Aging and Developmental Disabilities involving seven universities in six states. 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, Northeastern Ohio Universities College of Medicine; Gerontology Center, Kent State University; and Gerontology Committee, Youngstown State University.

Microscale Physiochemical Engineering Center (MPEC)

George G. Chase, Ph.D., Director

The Microscale Physiochemical Engineering Center (MPEC) was established in 1991 by faculty with a common research interest in materials comprised 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 multidisciplinary 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.

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 Organizational Development

Mark Lewis, M.A., Director

The Center for Organizational Development in the College of Business Administration was established to meet the training and development needs of the business community. The Center offers management development seminars, programs, conferences, and consulting services designed to enhance the skills of individuals and improve company productivity in a rapidly changing world. The Center specializes in offering dedicated supervisory training and management development programs that are custom designed to meet the specific needs of companies.

Institute for Policy Studies

Jesse F. Marquette, Ph.D., Director
Anne Marie Scarisbrick-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 University of 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, intercept 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 non-profit agencies. Institutional professional staff are available for consultation in the development of grant proposals and budgets.

The Urban and Policy Research Division (URPD) 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 URPD also focuses on 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 structure for the continuing flow 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 characterization. The institute, founded in 1983, seeks to be a major intellectual and research resource in northeast Ohio. The institute maintains up-to-date and futuristic processing and characterization laboratories, with continued interest in development investigation of new process technology and new materials. Its activities also include organization of scientific symposia and various seminars related to polymer processing and engineering.

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 1966 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 1966 and was administered by the institute until a separate Department of Polymer Science was established in 1967. The institute maintains extensive laboratory facilities, an applied research group, a macromolecular modeling center, and a mini pilot plant for polymer synthesis. It is the principal organization responsible for external funding of research projects and graduate fellowships in polymer science.

Process Research Center (PRC)

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.

For information, contact Dr. Steven S. C. Chuang, (330) 972-6993.

Fisher Institute for Professional Selling

Jon M. Hawes, Ph.D., Director
James T. Strong, Ph.D., Associate Director

The Fisher Institute for Professional Selling was founded in 1993. 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 learning experiences; and to advance the knowledge of professional selling through the support of applied research.

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 students, working as advisors under the supervision of the College of Business Administration faculty. Over 360 firms have been serviced by the Center since its founding.

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 1965, the Center acts as a bridge between the University and the Akron community, Ohio and beyond in pursuit of the University's urban mission.

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.
# Course Numbering System*

## INDEX

### Interdisciplinary Programs
- 1800 Divorce Mediation
- 1820 Home-Based Intervention Therapy
- 1880 Medical Studies
- 3000 Cooperative Education

### Buchtel College of Arts and Sciences
- 3100 Biology
- 3110 Biology/NEOUCOM
- 3150 Chemistry
- 3200 Classics
- 3210 Greek
- 3220 Latin
- 3250 Economics
- 3300 English
- 3350 Geography and Planning
- 3370 Geology
- 3400 History
- 3450 Mathematics
- 3460 Computer Science
- 3470 Statistics

### College of Engineering
- 4200 Chemical Engineering
- 4300 Civil Engineering
- 4400 Electrical Engineering

### College of Education
- 5100 Educational Foundations and Leadership
- 5170 General Administration
- 5190 Higher Education Administration
- 5400 Technical and Vocational Education
- 5500 Curricular and Instructional Studies

### College of Business Administration
- 5600 Management
- 5600 Marketing
- 5600 Professional
- 5600 International Business

### College of Fine and Applied Arts
- 7100 Art
- 7400 Family and Consumer Sciences
- 7500 Music
- 7510 Musical Organizations
- 7520 Applied Music
- 7600 Communication

### College of Nursing
- 8200 Nursing

### College of Polymer Science and Polymer Engineering
- 9841 Polymer Engineering
- 9871 Polymer Science

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*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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>601</td>
<td>DIVORCE MEDIATION</td>
<td>3</td>
</tr>
<tr>
<td>602</td>
<td>DIVORCE MEDIATION/PRACTICUM</td>
<td>2</td>
</tr>
</tbody>
</table>

**HOME-BASED INTERVENTION THERAPY**

1820:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>503</td>
<td>HOME-BASED INTERVENTION THEORY</td>
<td>3</td>
</tr>
<tr>
<td>504</td>
<td>HOME-BASED INTERVENTION TECHNIQUES AND PRACTICE</td>
<td>2</td>
</tr>
<tr>
<td>505</td>
<td>HOME-BASED INTERVENTION INTERNSHIP</td>
<td>3-5</td>
</tr>
</tbody>
</table>

**MEDICAL STUDIES**

1880:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>SPECIAL TOPICS: MEDICAL EDUCATION</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**COOPERATIVE EDUCATION**

3000:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>COOPERATIVE EDUCATION</td>
<td>6</td>
</tr>
</tbody>
</table>

**WOMEN’S STUDIES**

3001:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>FEMINIST THEORY</td>
<td>3</td>
</tr>
<tr>
<td>505</td>
<td>SPECIAL TOPICS IN WOMEN’S STUDIES</td>
<td>1-5</td>
</tr>
<tr>
<td>506</td>
<td>WORKSHOP</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**INSTITUTE FOR LIFE-SPAN DEVELOPMENT AND GERONTOLOGY**

3006:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>604</td>
<td>SPECIAL TOPICS</td>
<td>1-3</td>
</tr>
<tr>
<td>605</td>
<td>RETIREMENT SPECIALIST</td>
<td>2</td>
</tr>
</tbody>
</table>

**ENVIRONMENTAL STUDIES**

3010:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>WORKSHOP IN ENVIRONMENTAL STUDIES</td>
<td>1-3</td>
</tr>
<tr>
<td>602</td>
<td>EVALUATION OF ENVIRONMENTAL DATA</td>
<td>2</td>
</tr>
<tr>
<td>601</td>
<td>GRADUATE SEMINAR IN ENVIRONMENTAL STUDIES</td>
<td>3</td>
</tr>
</tbody>
</table>
### 3100: BIOLOGY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Food Plants</td>
<td>2</td>
<td>311 or permission of instructor. A survey of the plants used for human food, including their history, structure, uses.</td>
<td></td>
</tr>
<tr>
<td>521</td>
<td>Tropical Field Biology</td>
<td>4</td>
<td>111/12 or equivalent. Ecology of coral reefs, rainforests, mangroves, intertidal zones, and estuaries. Special emphasis on human ecosystems. Taught on field stations in the tropics.</td>
<td></td>
</tr>
<tr>
<td>534</td>
<td>Freshwater Ecology*</td>
<td>3</td>
<td>111/12 Field Laboratory study of lacustrine ecosystems. Species composition of selected biotic communities, community energetics, nutrient cycling. Limnological study of a local lake.</td>
<td></td>
</tr>
<tr>
<td>535</td>
<td>Freshwater Ecology Field and Laboratory Studies</td>
<td>3</td>
<td>217, 217, and 316. Laboratory basis of behavior of aquatic animals. All major groups of aquatic animals will be examined and current research presented.</td>
<td></td>
</tr>
<tr>
<td>536</td>
<td>Applied Aquatic Ecology*</td>
<td>4</td>
<td>217, 217, and 316. Laboratory basis of behavior of aquatic animals. All major groups of aquatic animals will be examined and current research presented.</td>
<td></td>
</tr>
<tr>
<td>538</td>
<td>Biology of Behavior</td>
<td>2</td>
<td>217, 217, and 316. Laboratory basis of behavior of aquatic animals. All major groups of aquatic animals will be examined and current research presented.</td>
<td></td>
</tr>
<tr>
<td>539</td>
<td>Biology of Behavior Laboratory</td>
<td>2</td>
<td>217, 217, and 316. Laboratory basis of behavior of aquatic animals. All major groups of aquatic animals will be examined and current research presented.</td>
<td></td>
</tr>
<tr>
<td>533</td>
<td>Pathogenic Bacteriology</td>
<td>4</td>
<td>311. Study of major groups of bacteria which produce infections in humans. Biochemical properties of microorganisms which express virulence and cause of host resistance. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>535</td>
<td>Virology</td>
<td>4</td>
<td>311. Physical, chemical, and biochemical properties of viruses including mechanisms of infection, genetics, and tumor formation, methods of cultivation and identification. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>537</td>
<td>Immunology</td>
<td>4</td>
<td>311. Recommended 433: Nature of antigens, antibody response, and antigen-antibody reactions. Site and mechanisms of antibody formation. Hypersensitivity, immunological tolerance, and immunological diseases. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>540</td>
<td>Mycology</td>
<td>4</td>
<td>311. Structure, history, classification of saprophytic fungi with emphasis on the important role of fungi in human and animal health. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>541</td>
<td>Plant Development</td>
<td>4</td>
<td>112, and one year of organic chemistry. Embryology and morphology of plants in relation to their physical, chemical, and spatial factors. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>542</td>
<td>Plant Anatomy</td>
<td>3</td>
<td>112. Structure and development of cells, tissues, and organs of the plant. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>543</td>
<td>Physiological Morphology</td>
<td>4</td>
<td>112. Examination of the major groups of algae with emphasis on their morphology and relationship to algal structure and development. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>545</td>
<td>Plant Morphology**</td>
<td>2</td>
<td>112. Structure, reproduction, life cycles, ecology, evolution, economic significance of land plants. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>548</td>
<td>Economic Botany</td>
<td>2</td>
<td>111/12 or permission of instructor. A survey of economically important plants and plant products, excluding food plants, includes wood and fiber, oil, drugs, fibers, dye, rubber, and other derivatives.</td>
<td></td>
</tr>
<tr>
<td>551</td>
<td>General Entomology</td>
<td>4</td>
<td>311. Study of major groups of insects. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>553</td>
<td>Invertebrate Zoology</td>
<td>4</td>
<td>112, 217. Invertebrates, their classification, functional morphology, adaptive radiation, and life history. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>556</td>
<td>Ornithology</td>
<td>4</td>
<td>112. Introduction to bird classification, anatomy, physiology, behavior, ecology, evolution, natural history, and field identification. Laboratory.</td>
<td></td>
</tr>
<tr>
<td>558</td>
<td>Vertebrate Zoology</td>
<td>4</td>
<td>316 or permission. Systematics and morphology of selected vertebrates, including birds and mammals. Laboratory with field trips.</td>
<td></td>
</tr>
<tr>
<td>560</td>
<td>Human Physiology</td>
<td>4</td>
<td>316. Human anatomy, physiology, and behavior. Laboratory with field trips.</td>
<td></td>
</tr>
</tbody>
</table>

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1. Field trips involved, minor transportation costs.
**BIOLOGY/NEUROCOM**

**3110:**

610 HUMAN GROSS ANATOMY I 2 credits
Prerequisites: graduate standing and permission. An intensive survey of human macroanatomy.

611 HUMAN GROSS ANATOMY II 3 credits
Prerequisite: graduate standing and permission. An intensive survey of human microanatomy.

541 FUNCTIONAL NEUROANATOMY 6 credits
Prerequisite: permission of instructor. Study of structure and function of mammalian nervous system with emphasis on human brain and behavior. Laboratory.

695 SPECIAL TOPICS: BIOLOGY/NEUROCOM 10 credits
Prerequisite: permission of instructor. Advanced topics in medicine, biology, psychology, and human behavior. Not otherwise available. May be repeated with a change in topic.

**CHEMISTRY**

**3150:**

501 BIOCHEMISTRY LECTURE I 3 credits
Prerequisite: 201, 202, 203, and 204 or permission of instructor. A survey of the chemistry of carbohydrates, lipids, proteins, and nucleic acids. Emphasis on chemical and biological aspects of metabolism. Laboratory.

502 BIOCHEMISTRY LECTURE II 3 credits

572 ADVANCED INORGANIC CHEMISTRY I 3 credits
Prerequisite: 341 or 344. Concepts of atomic structure integrated in systematic classification of elements. Emphasis on theoretical formulation of the representative elements. Transition elements including coordination compounds, organometallics, and metal carbonyls.

590 WORKSHOP IN CHEMISTRY 3 credits
May be repeated. Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.

603 BIOCHEMISTRY LECTURE III 3 credits
Prerequisites: 101 and 102. RNA and protein metabolism. Translation and transcription. Gene function and expression.

610 BASIC QUANTUM CHEMISTRY I 3 credits
Prerequisite: 610 or permission of instructor. Quantum mechanics with applications to molecular structure. Topics include angular momentum, molecular vibrations, and perturbation methods and methods of molecular orbital theory.

611 SPECTROSCOPY I 3 credits
Prerequisites: 610 or permission of instructor. Interaction of light with matter: topics in infrared, Raman, and NMR spectroscopies. Rotational, vibrational, and electronic spectroscopy. Radiationless transitions and photon chemistry.

619 TRANSITION-METAL ORGANOMETALLICS 2 credits
Prerequisite: 472 or equivalent. The organometallic chemistry of the transition metal elements. Topics covered include synthetic characterization methods, structure, bonding, reactivity, and applications.

620 MAIN GROUP ORGANOMETALLICS 3 credits
Prerequisite: 470 or equivalent. Main group chemistry. Elements covered include synthetic characterization methods, structure, bonding, reactivity, and applications.

621 ADVANCED PREPARATIONS FOR RESEARCH IN ORGANIC CHEMISTRY 1-2 credits
Prerequisite: permission. Methods for preparing and purifying organic and inorganic compounds. Laboratory.

625 CHEMISTRY SEMINAR 1 credit
Lectures on current research topics in chemistry by invited speakers.

629 PHYSICAL INORGANIC CHEMISTRY 3 credits
Prerequisites: 211, 212, 213, and 215 or permission. Methods for preparing and purifying organic and inorganic compounds. Laboratory.

630 THEORETICAL INORGANIC CHEMISTRY I 2 credits
Prerequisites: 610 and 611 or permission. A survey of the chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics, mechanism, and magnetism, electronic, spectroscopic, and molecular orbital theory.

635 THERMODYNAMICS AND STATISTICAL THERMODYNAMICS I 2 credits
Prerequisites: 301 and 303 or permission. A survey of the chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics, mechanism, and magnetism, electronic, spectroscopic, and molecular orbital theory.

636 CHEMICAL KINETICS I 3 credits
Prerequisite: 625 or permission of instructor. Chemical kinetics. Photophysics; kinetics of radiationless transitions; photochemistry. Topics treated will vary.

638 DESCRIPTIVE INORGANIC CHEMISTRY 3 credits
Prerequisite: 625 or permission of instructor. The synthesis, characterization, structure, bonding, and reactivity of inorganic compounds. Emphasis is placed on applications and examples from the recent literature.

640 CHEMICAL SEPARATIONS I 3 credits
Prerequisites: 422 and 424 or equivalent. General theory, instrumentation, and application of methods of separation. Emphasis on modern chromatographic techniques and recent advances.

641 SPECTRAL METHODS I 3 credits
Prerequisites: 422 and 424 or equivalent. Theory and application of instrumental measurement. Interpretation of data.

642 ELECTROCHEMISTRY I 3 credits
Prerequisites: 422 and 424 or equivalent. Theory and application of electrochemical methods of analysis.

645 X-RAY CRYSTALLOGRAPHY I 3 credits
Prerequisite: permission. The theoretical and practical aspects of single crystal x-ray crystallography are discussed. Topics covered include diffraction, space groups, structure solution, and refinement.

**610 SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS** 3 credits
Prerequisites: 233, 264 or permission of instructor. Determination of the structures of organic compounds by spectroscopic analysis. ORD, UV/VIS spectroscopy, IR spectroscopy, nuclear magnetic resonance spectroscopy. Practical laboratory.

683 MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY I 3 credits
Prerequisites: 233, 264 or permission of instructor. Introduction to the structural and mechanistic requirements of organic reactions. MeC mechanisms, acids and bases, equilibrium, kinetics, linear free energy relationships, reactivity intermediates, reaction mechanisms.

684 MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY II 3 credits
Prerequisite: 683 or permission of instructor. Synthesis of organic chemistry from a mechanistic perspective. Nucleophiles, electrophiles, and nucleophilic substitution and elimination reactions, carbon chemistry. Functional group manipulations, oxidations, reductions, organocatalysis.

689 MASTER'S THESIS 16 credits
For graduate qualified candidates for master's degree. Supervised original research in analytical, inorganic, organic, physical or biochemistry.

701 CHEMICAL LITERATURE 2 credits
Prerequisites: permission. Online search and literature databases. Major emphasis in placed on chemical abstracts, but other databases are included. Lecture and online searching.

710 SPECIAL TOPICS: ANALYTICAL CHEMISTRY 1-3 credits
Prerequisites: 501 advanced, 502 advanced. Topics in advanced analytical chemistry. Electroanalytical chemistry, separation science, atomic absorption spectrometry, mass spectrometry, titration, liquid-liquid and gas chromatography, ion exchange, chromatographic methods, separations, standards, sampling, recent developments.

711 SPECIAL TOPICS: INORGANIC CHEMISTRY I 1-3 credits
Prerequisite: permission. Considerations of topics in modern inorganic chemistry such as coordination compounds, chemistry of the transition state, representative elements, nonnegligible solvants, organometallic compounds, homogeneous catalysis.

712 SPECIAL TOPICS: ORGANIC CHEMISTRY I 1-3 credits
Prerequisites: 401/501 and 423 or permission. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, photochemistry.

713 SPECIAL TOPICS: PHYSICAL CHEMISTRY I 1-3 credits
Prerequisite: permission. Subject from modern physical chemistry.

715 SPECIAL TOPICS: BIOCHEMISTRY I 1-3 credits
Prerequisite: permission. Recent developments in areas of biochemistry.

720 ADVANCED BIOCHEMICAL TECHNIQUES 3 credits
Prerequisite: 501 advanced or instructor permission. Advanced techniques in biochemical analysis include optical and ultraviolet methods, radioisotopic techniques, scattering and magnetic resonance spectroscopy.

725 ENZYMATIC REACTIONS I 1-3 credits
Prerequisites: 401/501 and 423 or permission. Mechanisms and catalytic reactions. General aspects and specific examples in enzyme, both metabolic and nonmetabolic.

740 PHYSICAL ORGANIC CHEMISTRY I 3 credits
Prerequisites: 233, 264, or permission of instructor. An advanced treatment of the theory and mechanisms of organic reactions. Modern organic and radiation-free energy descriptions.

750 ADVANCED SYNTHETIC ORGANIC CHEMISTRY I 3 credits
Prerequisites: 401/501 and permission of instructor. An advanced treatment of organic functional groups manipulation in the context of the total synthesis of natural products.

800 DOCTORAL DISSERTATION 1-6 credits
Graded. To qualify for a degree, at least 6 credits must be completed. May be repeated with another committee.

**CLASSICS**

**3200:**

531.2 EGYPTOLOGY I AND II 3 credits each
The history and archaeology of ancient Egypt.

564 ASSYRIOLOGY 3 credits each
May be repeated for credit with a different course number. Prerequisite: permission of instructor.

562 ANCIENT NEAR EASTERN ARCHAEOLOGY 3 credits each
May be repeated for credit with a change in subject. Prerequisite: permission of instructor. Pales­

578 READING AND RESEARCH IN THE ANCIENT NEAR EAST 3 credits each
Prerequisite: permission of instructor. Advanced work in various aspects of Ancient Near East­

**GREEK**

**3210:**

5978 GREEK READING AND RESEARCH 3 credits each
May be repeated for credit with a change in subject. Prerequisites: permission of instructor.
LATIN
3220:
575
540
610
86
591
587
606
603
MACROECONOMIC ANALYSIS II
3 credits
ECONOMICS
3250:
506
STATE AND LOCAL PUBLIC FINANCE
3 credits
Prequisites: 530, 531. Examines economic rationale and problems for provi-
sion of goods and services by different governmental units. Considers alternative revenue
sources and special topics.
526
ECONOMIC METHODS AND APPLICATIONS
2 credits
Prequisites: 540 or 541. Application of statistical methods and microeconomic
analysis to macroeconomic models. Analysis of growth and stability.
527
ECONOMIC FORECASTING
2 credits
Prequisites: 540, 541 or permission of instructor. Study of methods for building, iter-
tive, testing, regression analysis, and forecasting. Use of computer in forecasting.
530
LABOR MARKET POLICY
3 credits
Prequisites: 500 or 502. Intensive study of current labor market policy issues, e.g., discrimi-
nation, poverty, the changing industrial structure, and the economics of education.
535
THE DEVELOPMENT OF AMERICAN CORPORATE STRUCTURE
3 credits
Trades evolution of American corporate structure from the 18th century to present. Examines and analyses the changing dimensions of corporate structure and response of government. Case studies analyzed.
540
SPECIAL TOPICS: ECONOMICS
3 credits
Prequisites: Permission. Community to study special topics and current issues in economics.
550
COMPARATIVE ECONOMIC SYSTEMS
3 credits
Prequisites: 500 and 501 or 244. Systems of economic organization, ranging from the simplest to a perfect free market economy to the socialist. Examination of historical evolution of economic systems covering problems in theory and practice.
560
ECONOMIC DEVELOPMENT AND PLANNING FOR UNDERDEVELOPED COUNTRIES
3 credits
Prequisites: 500 and 501 or 244. Basic problems in economic development. Theories of development. Government planning for development. Trade and development of underdeveloped countries. Credit not available for students with credit for 3250.664.
561
PRINCIPLES OF INTERNATIONAL ECONOMICS
3 credits
Prequisites: 500 and 501 or 244. Emphasis on foreign exchange, policies of free trade and controlled trade, international monetary problems.
575
DEVELOPMENT OF ECONOMIC THOUGHT
3 credits
Prequisites: 500 and 501 or 244. Evolution of theory and method, relation of ideas to economic problems.
585
MONETARY AND BANKING POLICY
3 credits
587
URBAN ECONOMICS: THEORY AND POLICY
3 credits
Prequisites: 500 and 501 or 244. A study of urban problems from an economic perspective. Emphasis on urban growth, land use, patterns, planning, housing, income distribu-
tion, poverty and urban fiscal policy.
591
WORKSHOP IN ECONOMICS
3 credits
May be repeated. Group study of special topics in economics. May not be used for undergraduates or major requirements in economics. May be used for elective credit.
600
FOUNDATIONS OF ECONOMIC ANALYSIS
3 credits
Prequisites: graduate standing. Determination of national income, employment and price level; aggregate consumption, investment and asset holding, decision problems faced by the household and firm. Partial equilibrium and analysis of monopoly and gener-
al equilibrium analysis. May not be substituted for 602, 603, 611, or applied toward the 30-grad
uate credits required for M.A. in economics.
602
MACROECONOMIC ANALYSIS I
3 credits
Construction of static macroeconomic models. Analysis predilection to terms of compara-
tive statics with only relative brief mention of dynamic models.
603
MACROECONOMIC ANALYSIS II
3 credits
606
ECONOMICS OF THE PUBLIC SECTOR
2 credits
610
FRAMEWORK OF ECONOMIC ANALYSIS
3 credits
Prequisites: graduate standing. Development of theoretical analytical framework for de-
cision making. Discussion of deterministic and probabilistic structural models, price, utility, and service. Regression analysis, public policy.
611
MICROECONOMIC THEORY
3 credits
Modern theory of consumer behavior and of the firm. Determination of market prices. Opti-
mization models, equilibrium of market forces, comparative statics and comparative advantage.
612
MICROECONOMIC THEORY II
3 credits
Prequisites: 611. Determination of price. Covers microeconomic equilibrium, general equilibrium and welfare economics. Special emphasis on applications in public policy and applied welfare theory.
615
INDUSTRIAL ORGANIZATION
2 credits
Prequisites: 611 or permission of instructor. Examination of market structure, firm conduct and economic performance. Measurement and effects of monopoly power, industrial con-
centration and change.
617
ECONOMIC POLICY AND REGULATION
3 credits
Prequisites: 611 or permission of instructor. Examination of the role and methods of govern-
ment regulation of public utility, transportation and communications industries.
620
APPLICATIONS OF MATHEMATICAL MODELS TO ECONOMICS
3 credits
Prequisites: 302, 303. Use of mathematical techniques to model economic behavior. Applications of linear and non-linear programming, game theory, decision theory, and probability theory.
621
APPLICATION OF LINEAR MODELS IN ECONOMIC ANALYSIS
3 credits
Prequisites: courses in intermediate microeconomics and economic theory. Study of selected topics in linear algebra and matrix algebra. Applications to economic theory. Linear optimization, game theory, and probability theory.
625
STATISTICS FOR ECONOMETRICIANS
3 credits
Prequisites: courses in intermediate and advanced calculus. Review of selected topics of linear algebra and matrix algebra with special emphasis on applications to econometrics. Analysis of growth and stability.
627
ECONOMETRICS
3 credits
Prequisites: 625 or permission. Basic theory and application of econometric methods. Emphasis on econometric analysis of growth and stability.
633
SEMINAR IN RESEARCH METHODS
3 credits
Prequisites: permission of instructor. Seminar in the research and application of applied microeconomic or econometric methods in research. Emphasis on economics and style of expression used in economics. Credit may be taken repeatedly.
639
PUBLIC SECTOR LABOR MARKETS
3 credits
Prequisites: 631 or permission of instructor. Examination of special problems in labor markets. May be used for elective credit.
664
SEMINAR ON ECONOMIC GROWTH AND DEVELOPMENT
3 credits
Prequisites: permission of instructor. Seminar in the research and application of applied microeconomic or econometric methods in research. Emphasis on economic development of emerging countries. Discussion of governmental problems in economic development.
670
INTERMEDIATE MICROECONOMICS
3 credits
Prequisites: 664 or permission. Basic theory and application of applied microeconomic or econometric methods in research. Emphasis on economic development of emerging countries. Discussion of governmental problems in economic development.
671
INTERNATIONAL MONETARY ECONOMICS
3 credits
Prequisites: 664 or permission. Basic theory and application of applied microeconomic or econometric methods in research. Emphasis on economic development of emerging countries. Discussion of governmental problems in economic development.
673
INTERNATIONAL TRADE
3 credits
Prequisites: 664 or permission. Basic theory and application of applied microeconomic or econometric methods in research. Emphasis on economic development of emerging countries. Discussion of governmental problems in economic development.
674
MONETARY ECONOMICS
3 credits
Prequisites: 664 or permission. Basic theory and application of applied microeconomic or econometric methods in research. Emphasis on economic development of emerging countries. Discussion of governmental problems in economic development.
675
THEORY OF WAGES AND EMPLOYMENT
3 credits
Prequisites: 664 or permission. Basic theory and application of applied microeconomic or econometric methods in research. Emphasis on economic development of emerging countries. Discussion of governmental problems in economic development.
679
MASTER'S THESIS
May be repeated for a total of six credits.
575 THEORY OF RHETORIC
Prerequisite: Completion of 100:111 and 100:112 or their equivalents, or permission of the instructor. Ancient and modern theories of rhetoric, with attention to classical orations, "topics" of rhetoric and their application to teaching of English.

589 SEMINAR IN ENGLISH
2-3 credits
Prerequisite: Completion of 100:111 and 100:112 or their equivalents, or permission of the instructor. (May be repeated with different topics.) Special studies; and methods of literary research, in selected areas of English and American literature and language.

590 WORKSHOP IN ENGLISH
1-3 credits
Prerequisite: Completion of 100:111 and 100:112 or their equivalents, or permission of the instructor. May be repeated with different topics. Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for English electives only.

600 TEACHING COLLEGE COMPOSITION PRACTICUM
3 credits
Prerequisite: teaching assistantship. Seminars and weekly analysis of teaching rationale and practice. Limited to teaching assistants in the Department of English.

615 SHAKESPEARE’S DRAMA
3 credits
Concentrated study of several Shakespearean plays with emphasis on historical, critical and dramatic documents pertinent to development of Shakespeare’s art.

616 SHAKESPEARE’S CONTEMPORARIES IN ENGLISH DRAMA
3 credits
Readings in such plays as Marlowe, Greene, Marston, Jonson, Beaumont, Fletcher, Webster, Middleton and Ford in contemporary writings relevant to theory and practice of drama.

618 MILTON
3 credits
Emphasis on Milton’s major poems and prose works. Paradise Lost, Paradise Regained, Areopagitica. Student becomes acquainted with Milton the man and Milton the artist.

627 KEATS AND HIS CONTEMPORARIES
3 credits
Writings of John Keats, studied against background of romantic poetry and theory of Keats’ contemporaries.

639 THEORY AND PRACTICE OF MODERN POETRY
3 credits
Study of modern poetry, with critical themes of modern poetry and relation between writer’s theme and period with particular attention to Frost, Stevens, Yeats and Eliot.

643 SEMINAR IN JAMES
1 credit
A study of Henry James’ life and works. Special emphasis will be on James’ fiction, both long and short, early and late, but some attention will also be given to his literary criticism, critical pieces, and plays.

665 LITERARY CRITICISM
1-3 credits
Factual nature and value of literature and problems of practical criticism as represented in major statements of ancient and modern critics.

780 MODERN LINGUISTICS
2 credits
Introductory examination of methods and results of modern grammatical research in syntax, semantics, phonology, and syntax. Course work includes understanding of language variation and background investigation for linguistic studies of literature.

873 THEORIES OF COMPOSITION
1 credit
Study of composition theories and research, with attention to their implications for writing and writing instruction. Focus on such topics as composing processes, invention, transformation, and editing. Focus on the language and theories of writing. Class sessions include discussion of readings and presentations.

874 RESEARCH METHODOLOGIES IN COMPOSITION
1-3 credits
Research methodology in composition and their application. Students will define research areas, summarize and evaluate work already done, and complete and complete semester research projects.

875 WRITING FOR MBAs
3 credits
Prerequisite: managerial writing. Writing tasks are presented as decision-making tasks, and students develop strategies for analyzing and writing reports and messages to outside audiences.

876 THEORY AND TEACHING OF BASIC COMPOSITION
3 credits
Review of current research and exploration of specific instructional methods for teaching basic composition.

879 SCHOLARLY WRITING
3 credits
Study of composing, analyzing and evaluating academic arguments. Practice in specific forms of academic writing such as reviews of research, articles and book reviews.

883 SEMINAR IN SATIRE
1 credit
A study of satire from the middle ages through the last 200 years, with particular attention to techniques of sardonic attack, modes of comedy and irony and literary criticism.

888 SEMINAR IN ENGLISH
1 credit
(May be repeated with change of topics) Special topics within the general field of literature and language, usually focusing on major figures or themes.

891 BIBLIOGRAPHY AND LITERARY RESEARCH
3 credits
Choosing research topics, topical problems in literary scholarship, abstracting scholarly and bibliographic sources for literary research. Bibliographic exercises done, models of literary scholarship read.

898 INDIVIDUAL READING IN ENGLISH
1-3 credits
Individual study under guidance of professor who directs and coordinates student’s reading and research.

909 MASTER’S THESIS
14-16 credits
Original work in the field of literature and language and completion of graduate students required thesis.

Courses of Instruction

553 COMPUTER APPLICATIONS IN GEOGRAPHY AND PLANNING
3 credits
Application of advanced information technologies for geography and planning, including operating systems, electronic spreadsheets, data base management systems, and the Internet.

560 GEOGRAPHIC INFORMATION SYSTEMS
3 credits
Prerequisites: 540 and 543 or permission. Introduction to the principles and concepts underlying geographic information systems (GIS) and their application in professional practice and academic research. Laboratory.

570 ADVANCED GEOBASIC INFORMATION SYSTEMS
3 credits
Prerequisite: 550. Advanced instruction in the theory and application of geographic information systems (GIS) including hands-on experience with both raster and vector GIS. Laboratory.

572 TRANSPORTATION SYSTEMS PLANNING
3 credits
Prerequisites: 320 or permission. Study and analysis of transportation systems for geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.

578 MUNICIPAL AND COMMERCIAL SITE LOCATION
3 credits
Prerequisite: 320 or permission. Relationship between land, resources, population, transportation and industrial and commercial location process.

533 INTRODUCTION TO PLANNING
3 credits
Prerequisite: 320 or permission. Role of geographic investigation in city planning and resource planning.

536 URBAN LAND USE ANALYSIS
3 credits
Prerequisites: 320 or permission. Land use classification systems and their spatial analysis in urban areas. Land use data are collected by student field work and analyzed to identify the various associations and structures of urban areas.

539 DEVELOPMENT OF AMERICAN PLANNING
3 credits
Prerequisites: 330 or permission. Emphasis on the growth of urban and regional planning theory and practice and the development of a planning profession, particularly in the twentieth century.

545 PRINCIPLES OF CARTOGRAPHY
3 credits
Theoretical and practical applications of cartographic principles used to design and produce maps for research reports, public presentations, publication, and other professional uses.

546 THETAMIC CARTOGRAPHY
2 credits
Prerequisite: 320 or permission. Principles and techniques of thematic mapping. Exercises as communication tools. Examines thematic mapping techniques and means of presenting quantitative and qualitative data. Laboratory.

544 APPLICATIONS IN CARTOGRAPHY AND GEOGRAPHIC INFORMATION SYSTEMS
3 credits
Prerequisite: 340 or 540 and 405 or 505 or permission. Application of analytic and presentation techniques from cartography and geographic information systems to practical problems in geography and planning.

547 INTRODUCTION TO REMOTE SENSING
3 credits
Prerequisite: permission of instructor. Study of aerial photography and non-photographic images developed by radar, thermal, multispectral and satellite scanners. Emphasis on use in geographic, geological, biological and engineering research.

548 ADVANCED CARTOGRAPHY
3 credits
Prerequisite: 340/540 or permission. Advanced study of cartographic principles with emphasis on the use of color for map design and production. Laboratory activities.

549 ADVANCED REMOTE SENSING
3 credits
Prerequisite: 447/547 or permission. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution, and presentation of remote sensing studies.

562 DEVELOPMENT PLANNING
3 credits
A study of planning concepts and techniques for developing countries, including growth and development planning agencies, regional studies and alternative approaches.

571 MEDICAL GEOGRAPHY AND HEALTH PLANNING
3 credits
Solving analysis of diseases, their socioeconomic correlates, diffusion pattern of infectious diseases, and particular reference to southeast Asia, America, health planning processes and spatial analysis of health-care delivery systems.

581 RESEARCH METHODS IN GEOGRAPHY AND PLANNING
3 credits
Prerequisites: 320, 12 credits in geography and planning. Investigation of binary and archetypal resources. Emphasis on development of professional writing skills.

583 SPATIAL ANALYSIS
3 credits
Prerequisite: 403/503 or permission. Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.

598 SPECIAL TOPICS IN GEOGRAPHY
1-3 credits
May be repeated! Selected topics of interest in geography.

599 WORKSHOP IN GEOGRAPHY
1-3 credits
May be repeated for a total of six credits. Group studies of special topics in geography.

599, 600 WATER FIELD STUDIES
3 credits
Prerequisite: 320 or permission. Properties, origin and uses of major water and water regimen. Watershed relationships between soil and the hydrological cycle, urbanization, and agriculture. Field trips required.

600, 602 FIELD RESEARCH METHODS
1-3 credits
Prerequisites: 483/583 or permission. Field work enabling student to become competent in collecting, organizing, and analyzing data of study while conducting field research projects.

600, 602 SEMINAR
1-3 credits
Each seminar required for a minimum of six credits each (Prerequisite: permission, investigation and design of selected topics in particular fields of geography. Specialization indicated by second portion of title.

630 PLANNING THEORY
3 credits
Prerequisite: Introduction to the political, institutional and ethical foundations and procedural theories of urban and regional planning.

631 FACILITIES PLANNING
3 credits
Study of need, process and limitation of urban facilities planning.

632 LAND USE PLANNING LAW
2 credits
Prerequisite: permission. Acquaint student with past and present approach to planning control in the United States and examine the policies, economic, social and legal forces which have shaped existing land-use legislation.

633 COMPARATIVE PLANNING
3 credits
A survey of national, regional and local planning implementation measures in use in the developed world. Particular attention will be given to the planning practices of European nations and their impact on American planning theory and practice.

637 METHODS OF PLANNING ANALYSIS I
2 credits
Prerequisite: 540. Introduction to the primary analytic techniques for small area development, and economic analysis and projection.

638 METHODS OF PLANNING ANALYSIS II
2 credits
Prerequisite: 540. Review of the primary techniques for comprehensive plan preparation, evaluation and implementation.

680 ADVANCED SPATIAL ANALYSIS
3 credits
Prerequisites: 483/583 or permission. Advanced concepts and methodologies in geographic research. Emphasis on quantitative revolution in geographical analysis including quantitative methods as factors, discriminant and econometric analysis, and multidimensional scaling.

685 LAND USE INTERNSHIP
3 credits
Prerequisite: permission. Individual experience in selected planning agencies for supervised performance in professional planning work.

GEOGRAPHY AND PLANNING

3350:

503 COMPUTER APPLICATIONS IN GEOGRAPHY AND PLANNING
3 credits
Application of advanced information technologies for geography and planning, including operating systems, electronic spreadsheets, data base management systems, and the Internet.

505 GEOGRAPHIC INFORMATION SYSTEMS
3 credits
Prerequisites: 540 and 543 or permission. Introduction to the principles and concepts underlying geographic information systems (GIS) and their application in professional practice and academic research. Laboratory.

507 ADVANCED GEOBASIC INFORMATION SYSTEMS
3 credits
Prerequisite: 550. Advanced instruction in the theory and application of geographic information systems (GIS) including hands-on experience with both raster and vector GIS. Laboratory.
GEOL0GY

3370:

505 ARCHAEOLOGICAL GEOLOGY 2 credits Includes lab Prerequisite: 101 or permission of instructor. Provides background in geologic principles and techniques relevant to archeologists. Topics include stratigraphy, absolute dating, locative interpretation, taphonomy, and remote sensing. Required lab.

510 REGIONAL GEOLOGY OF NORTH AMERICA 3 credits Prerequisites: 101, 102, 230 or permission. Recommended: 350. Examination of physiographic provinces of North America emphasizing structure, tectonic setting, stratigraphy and processes responsible for landforms in each province. Laboratory.

511 GLACIAL GEOLOGY 3 credits Prerequisite: 230 or permission. Includes effects of Pleistocene exposure of pole ice masses with emphasis on glacial deposits and world climate changes.

521 COASTAL GEOLOGY 3 credits Prerequisite: 101, 230 or permission of instructor. Study of the origins and evolution of coasts, and coastal deposits with particular attention paid to the interaction of waves and currents with sediment, and the development of associated sedimentary features.

525 PRINCIPLES OF SEDIMENTARY BASIN ANALYSIS 3 credits Prerequisites: 230 or permission. Primarily the study of depositional systems, regional and global stratigraphic cycles, and sedimentation and plate tectonics.

532 OPTICAL MINERALOGY-INTRODUCTION TO PETROGRAPHY 3 credits Prerequisites: 230 and 230 or permission. Optical techniques for identification, characterization, and classification of minerals, oils and rocks using the petrographic microscope. Laboratory.

533 ADVANCED PETROGRAPHY 3 credits Prerequisite: 532. Review of general, metamorphic and sedimentary rocks as determined by microscopic studies of textures and mineral assemblages using thin section. Laboratory.


536 COAL GEOLOGY 3 credits Prerequisites: 101, 102, recommended: 324. Origin, composition and occurrence of coal with emphasis on geophysical, environmental, coalification processes. Exploration, evaluation and exploitation. Laboratory.

537 ECONOMIC GEOLOGY 3 credits Prerequisites: 231 and 350. Study of metallic and nonmetallic mineral deposits amplifying processes and exploration. Laboratory.

541 FUNDAMENTALS OF GEOPHYSICS 3 credits Prerequisites: 350 or permission. Recommended: 350. Introduction to geophysical principles, methods of data analysis and their quantitative evaluation. Applications in oil, gas and groundwater exploration. Laboratory.

546 EXPLORATION GEOPHYSICS 3 credits Prerequisites: 350, 233, 350 or permission. Basic principles and techniques of geophysical exploration with emphasis on gravitational, magnetic, seismic and electrical methods and application to geological problems. Laboratory.

548 BOREHOLE GEOPHYSICS 3 credits Prerequisite: permission of instructor. Basic principles and techniques of borehole geophysical well logging, with emphasis on the use of borehole-geophysical methods in mining, exploration, well logging, geophysical and geotechnical investigations. Laboratory.

551 ADVANCED STRUCTURAL GEOLOGY 3 credits Prerequisite: 350 or permission. Fundamental and advanced concepts of structural geology with emphasis on current and developing concepts. Laboratory.

552 ADVANCED PALEONTOLOGY 3 credits Prerequisites: 362 and 363 lab. Provides advanced training in palaeontological subjects. Topics will include paleoenvironmental analysis, biostratigraphy, correlation, fossil preservation, dinosaur and extinction patterns, phylogenetic systems of fossils. Laboratory.

553 MICROPALEONTOLOGY 3 credits Prerequisite: 362. Introduction to techniques of micro-paleontology and section by selected microfossil groups. Laboratory.

560 GEOCHEMISTRY 3 credits Prerequisites: 101, 102, 231, 350 or permission. Application of chemical principles in the study of geologic processes. Laboratory.

572 STABLE ISOTOPE GEOCHEMISTRY 3 credits Prerequisites: 350, 351, 352. Analysis of stable and radiocarbon isotopes. Experimental facility in study of the hydrology and carbon cycles, modern sedimentary environments, and the interpretation of sedimentary rocks. Laboratory.

574 GROUNDWATER HYDROLOGY 3 credits Prerequisites: 134, 167, 360. Delineation, regimen and utilization of groundwater. Qualitative and quantitative presentation of geothermals and geochemical aspects of groundwater hydrology. Laboratory.

581 ANALYTICAL METHODS IN GEOLOGY 2 credits Prerequisites: 230 and 231. A survey of analytical methods used to solve geologic problems with emphasis on methods selection, proper sample collection, analysis of raw data, and data presentation.

584 GEOLOGIC INFORMATION ACQUISITION AND MANAGEMENT 1-5 credits Prerequisite: Must be a Geologic Department graduate student or senior major in geology or have permission of instructor. Methods for finding, gathering, managing, and evaluating geologic information. Emphasis on finding data sources including electronic. Creating valid data sets, visualizing data.

595 INDIVIDUAL READINGS IN GEOLOGY 1-3 credits Prerequisite: permission of graduate advisor required. May be repeated for a total of 8 credits. May not be used to meet degree requirements. Directed reading to fit individual student program. Credit/No credit.
501 HISTORY OF MATHEMATICS 3 credits
Prerequisite: 222. Origin and development of mathematical ideas. Course does not meet degree requirements in the department.

510 ADVANCED LINEAR ALGEBRA 3 credits
Prerequisite: 317 Study of vector spaces, linear transformation, canonical and quadratic forms, inner products, and bilinear forms.

511 ABSTRACT ALGEBRA I 3 credits
Prerequisite: 307 or permission. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.

512 ABSTRACT ALGEBRA II 3 credits
Prerequisite: 4165 or permission of instructor. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.

513 THEORY OF NUMBERS 3 credits
Prerequisite: 222 or permission. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.

514 VECTOR ANALYSIS 3 credits
Prerequisite: 223. Vector algebra, calculus of scalar-value, vector-valued functions, integral theorems, orthogonal and general curvilinear. Application of geometry and engineering.

515 COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: 222 or permission. Introduction to basic ideas and techniques of combinatorial counting problems, properties of structures of systems.

521 ADVANCED CALCULUS I AND II 3 credits each
Sequential. Prerequisite: 222. 307 is highly recommended. Real number system, sequences, series, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformation, line and surface integrals.

525 COMPLEX VARIABLES 3 credits
Prerequisite: 223. Complex variables, elementary functions, differentiation and analytic, functions, integration and Cauchy’s theorem; power series and Laurent series, residue theorem; applications, such as Laplace transforms, conformal mappings, inversion of integral transform.

527 INTRODUCTION TO NUMERICAL ANALYSIS 3 credits
Prerequisites: 223 and 3460 or knowledge of FORTRAN. Mathematical analysis of numerical methods for solving equations, interpolating function values, approximating derivatives and integrals, approximating functions.

528 NUMERICAL LINEAR ALGEBRA 3 credits
Prerequisites: 223 and 3460 or knowledge of FORTRAN. Mathematical analysis of numerical methods for solving systems of linear equations, eigen value problems, non-linear systems, linear least square problem.

529 NUMERICAL SOLUTIONS FOR ORDINARY DIFFERENTIAL EQUATIONS 3 credits

530 NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 412/512 or equivalent. For advanced undergraduate and graduate students. The study of finite difference and finite element methods for partial differential equations – consistency, stability, convergence and computer implementation.

532 PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 226 or 326. The classical total and boundary value problems, problems of mathematical physics developed and solved using Fourier series and integral transforms.

535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS 3 credits
Prerequisites 226 or 326, and either 310 or 428 or permission. Analysis, solution of systems of equations; linear, non-linear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.

536 MATHEMATICAL MODELS II 3 credits
Prerequisite: 225 or 325, and six-hour sequence in an approved applied area, or permission. Formulation and analysis of mathematical models in social and physical sciences. Analysis of determination and stability of solutions and systems of equations. Topics may include stochastic processes, linear programming, graph theory, measurement of theory and models.

538 ADVANCED ENGINEERING MATHEMATICS I 3 credits
Prerequisites: 325 and 381. Matrices, eigenvalue problems, systems of ODEs, vector space analysis, complex variables.

539 ADVANCED ENGINEERING MATHEMATICS II 3 credits
Prerequisites: 235 and 302 or permission. Special functions, Fourier series and transforms, PDEs.

541 CONCEPTS IN GEOMETRY 3 credits
Prerequisite: 222 or permission of instructor. 307 is recommended. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformation, constructions and inversion.

545 INTRODUCTION TO TOPOLOGY 3 credits
Prerequisite: 307 or permission of instructor. Introduction to topological spaces and topologies, mapping, cardinality, homeomorphisms, connected spaces, metric spaces.

589 TOPICS IN MATHEMATICS 3 credits
(May be repeated for a total of six credits) Prerequisite: Permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.

625 ANALYTIC FUNCTION THEORY 3 credits
Prerequisite: 422/522. Complex number system, holomorphic functions, continuity, differentiability, power series complex integration, residue theorem, singularities, analytic continuation, asymptotic expansion.

623 ADVANCED NUMERICAL ANALYSIS I AND II 3 credits each
Sequential. Prerequisite: 422/522. Theoretical analysis of numerical methods in linear algebra degree requirements in the department.

629,30 MATRIX COMPUTATIONS I AND II 3 credits each
Prerequisite: 422/522 or permission. Sequential. This course is a treatment of numerical linear algebra based on the principle of scientific computing.

631 CALCULUS OF VARIATIONS 3 credits
Prerequisites: 235 or 325. Problems with fixed and movable endpoints, problems with constraints. Generalization to several variables; the maximality principle, linear time-optimal problems, the connective between classical theory and the maximality principle.

632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisites: 422/522 or permission. Existence, uniqueness and stability of solutions to general classes of partial differential equations. Methods for solving these classes introduced, emphasizing both analytical and numerical techniques.

633 METHODS OF APPLIED MATHEMATICS I AND II 3 credits each
Prerequisites: 421/521 or 430539, 436559 or permission. Methods of applied mathematics concentrating on techniques for analysis of differential and integral equations – applied complex analysis, integral transforms, partial differential equations, and integral equations.

635 OPTIMIZATION 3 credits
Prerequisite: 422/522 or permission. Unconstrained and constrained optimization theory and methods in applied problems.

636 ADVANCED COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisites: 223 and 355. Theory and techniques of combinatorics as applied to network problems and graph theoretical problems.

689 ADVANCED TOPICS IN MATHEMATICS 3 credits
Prerequisites: 422/522 or permission. A total of six credits: Prerequisite: permission of advisor. Seminar-type discussion on topics in mathematics leading to supervised research project. No more than 2 credits allowable to major requirements.

692 SEMINAR IN MATHEMATICS 3 credits
(May be repeated Prerequisite: permission of advisor. Seminar-type discussion on topics in mathematics leading to supervised research project. No more than 2 credits allowable to major requirements.

698 PRACTICUM IN MATHEMATICS AND STATISTICS 3 credits
(May be repeated Prerequisite: graduated teaching assistant or permission. Training and experience in college teaching of mathematical sciences. May not be used to meet degree requirements. May be taken only on a credit/no credit basis.

699 INDIVIDUAL READING 3 credits
Prerequisite: 410/520 or permission. Directed study in mathematics at graduate level under guidance of selected faculty member.

688 MASTER’S RESEARCH 3 credits
If approved by the Graduate School, Prerequisite: permission of advisor. Research in suitable topics in mathematics or applied mathematics culminating in a research paper. No more than 2 credits applicable to major requirements.

698 MASTER’S THESIS 2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Properly qualified candidate for master’s degree may obtain four credits for research experience which culminates in preparation of a supervised thesis.

721 FUNCTIONAL ANALYSIS I AND II 3 credits each
Prerequisites: 410/520 and 621. These courses are sequential. Study of normed linear spaces and transformations between them with an emphasis on the formulation and analysis of differential and integral equations as operator equations on these spaces.

728 MATRIX ITERATIVE ANALYSIS 3 credits
Prerequisite: 222 or permission of the instructor. Basic iterative methods. Matrix Properties and Concepts, Linear and Nonlinear equation solver, Semimetric and congruent-gradient methods.

730 ADVANCED NUMERICAL SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisites: 422/522 and 432/522, or permission. Solution and analysis of difference and variational-based methods for the solution of partial differential equations.

731,72 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS I AND II 3 credits each
Prerequisites: 422/522 and 432/522 or equivalent. Well-posedness of elliptic, hyperbolic and parabolic problems: Variational methods, conservation laws, numerical methods, potential theory and integral equations.

734 ASYMPTOTIC METHODS AND NONLINEAR ANALYSIS I AND II 3 credits each
Prerequisites: 633584 or equivalent. Survey of asymptotic and perturbation methods as applied to integrals and differential equations. Topics: bifurcation and stability with applications from the physical sciences and engineering.

785 DYNAMICAL SYSTEMS 3 credits
Prerequisite: 410/520 or equivalent. The study of mathematical models of systems which evolve over time. An introduction to maps and applications to ordinary differential equations.

801 NUMERICAL MATHEMATICS 3 credits
Prerequisite: 422/522 or equivalent. Survey of numerical methods and differential equations. Topics: bifurcation and stability with applications from the physical sciences and engineering.

802 NUMERICAL ANALYSIS 3 credits
Prerequisite: 422/522 or equivalent. Survey of numerical methods and differential equations. Topics: bifurcation and stability with applications from the physical sciences and engineering.

803,420 NUMERICAL ANALYSIS I AND II 3 credits each
Prerequisites: 633584 or equivalent. Survey of asymptotic and perturbation methods as applied to integrals and differential equations. Topics: bifurcation and stability with applications from the physical sciences and engineering.

804,403 NUMERICAL ANALYSIS I AND II 3 credits each
Prerequisites: 633584 or equivalent. Survey of asymptotic and perturbation methods as applied to integrals and differential equations. Topics: bifurcation and stability with applications from the physical sciences and engineering.

805 WINDOWS PROGRAMMING 3 credits
Prerequisites: 208 or 210 or 406 or permission. Windows operating systems, integral development environment, exedrive, programming, graphical user interface development, using object libraries, component object model, object linking and embedding, client-server objects.

COMPUTER SCIENCE:

501 FUNDAMENTALS OF DATA STRUCTURES 3 credits
Prerequisite: programming experience in C. Basic data structures and algorithms: stacks, queues, linked lists, trees, hash tables, and graphs. Sorting and searching algorithms. Introduction to data abstraction and algorithm analysis. (Not an approved major, minor, or certificate elective in computer science)

502 INTRODUCTION TO C AND UNIX 3 credits
Prerequisites: Programming experience in C. Language programming. UNIX shell programming, file structure, system calls, and interprocess communication. (Not an approved mathematical sciences major, minor, or certificate elective)

503 WINDOWS PROGRAMMING 3 credits
Prerequisites: 208 or 210 or 406 or permission. Windows operating systems, integral development environment, exedrive, programming, graphical user interface development, using object libraries, component object model, object linking and embedding, client-server objects.
ENGINEERING

APPLIED MATHEMATICS

3490:

790 ADVANCED SEMINAR IN APPLIED MATHEMATICS 14 credits
Prerequisite: Permission. May be repeated for a total of 12 credits for students seeking graduate degrees in Applied Mathematics. Advanced topics and studies in various areas of applied mathematics.

898 PRELIMINARY RESEARCH 1.5 credits
Prerequisite: Permission. (May be repeated.) Completion of qualifying examination and approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation topic.

899 DOCTORAL DISSERTATION 1.5 credits
Prerequisite: Permission. (May be repeated.) Completion of candidacy examination and approval of Student Advisory Committee. Original research by a Ph.D. candidate.

MODERN LANGUAGES

3500:

562 ADVANCED FRENCH GRAMMAR 3 credits
Prerequisite: 303 or equivalent. Advanced study of normative French grammar with emphasis on syntax, morphology, and grammatical structure.

567 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE 4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of selected Medieval and Renaissance literary works.

511 17TH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of selected works in poetry, drama, and novel novels Conducted in French.

518 18TH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of selected works pertaining to romantic, realist, and naturalistic movements. Conducted in French.

3520:

562 SPECIAL TOPICS IN ADVANCED LANGUAGE SKILLS OR CULTURE 3 credits
Prerequisite: 202 or equivalent. (May be repeated.) Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.

567 SPECIAL TOPICS IN FRENCH LITERATURE 4 credits
Prerequisite: 305 or 306 or equivalent. Reading and discussion of the most representative works of French literature.

560 SELECTED THEMES IN FRENCH LITERATURE 3 credits
(Repeated.) Conducted in French. Prerequisite: 305 and 306 or equivalent. Reading and discussion of selected works selected according to an important theme.

571 FRENCH LANGUAGE READING PROFESSIONAL 4 credits
Designed to develop proficiency in reading comprehension. Prepares students for graduate level reading examination. Does not count toward French major.

978 INDIVIDUAL READING IN FRENCH 14 credits
Prerequisite: 302 and permission of the French section. May be repeated for a total of eight credits.

978 SELECTED TOPICS IN THE MOVEMENT OF IDEAS IN FRENCH LITERATURE 4 credits
Course emphasizes the study of ideas in literature. May be repeated for a total of eight credits.

961 FRENCH TEACHING PRACTICUM 2 credits
Prerequisite: 202 or permission of instructor. Jean-Paul Sartre and practice of particular aspects of teaching language and culture. Periodic review and evaluation. Credits may not be applied toward degree requirements.

978 INDIVIDUAL READING AND RESEARCH IN FRENCH 14 credits
Prerequisite: 202 and permission of Department Chair. Independent study and research in specified areas. bearable reading and writing required.

989 MASTER’S THESIS 4 credits

GERMAN

3530:

522 SPECIAL TOPICS IN ADVANCED LANGUAGE SKILLS, CULTURE, AND LITERATURE 14 credits
Prerequisite: 301 and graduate standing. Development of specialized language skills and advanced readings in German literature or culture. May be repeated for a total of eight credits.

571 GERMAN LANGUAGE READING PROFESSIONAL 4 credits
Designed to develop proficiency in reading comprehension.

978 INDIVIDUAL READING IN GERMAN 14 credits
Prerequisite: 302 and graduate standing. Individual reading in German. May be repeated for a total of eight credits.
SPANISH

506 SPANISH LINGUISTICS: PHONOLOGY 4 credits
Prerequisite: permission. Descriptive study of Spanish phonetics and morphology; comparison of Spanish and English sounds; historical aspects, regional accents and sociolinguistic variation. Conducted in Spanish.

506 SPANISH LINGUISTICS: SYNTAX 4 credits
Prerequisite: permission. Descriptive study of Spanish syntax; introduction to theories of grammar, overview of Spanish semantics and pragmatics. Conducted in Spanish.

509 CULTURAL MANIFESTATION IN MEDIEVAL AND RENAISSANCE SPAIN 4 credits
Prerequisite: 407 or 408 or permission of instructor. Comparative study of representative artistic and literary movements of the Medieval and Renaissance periods. Conducted in Spanish.

511 SPAIN DURING THE BAROQUE PERIOD 4 credits
Prerequisite: 407 or 408 or permission of instructor. A comparative study of the different cultural manifestations during the 17th century. Conducted in Spanish.

512 CERVANTES: DON QUICOTE 4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and analysis of Don Quixote and the first modern novel in the historical context of Renaissance and Baroque esthetics. Conducted in Spanish.

515 THE AGE OF REASON AND THE ROMANTIC REBELLION IN SPAIN 4 credits
Prerequisite: 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 17TH CENTURY SPAIN 4 credits
Prerequisite: 407 or 408 or permission. A comparative study of the major literary and artistic movements in Spain from Realism to Modernism. Conducted in Spanish.

520 20TH CENTURY SPAIN: THE AVANT-GARDE IN LITERATURE AND ART 4 credits
Prerequisite: 407 or 408 or permission of instructor. A comparative study of the major literary and artistic movements in Spain which illustrate the primary cultural changes of the century. Conducted in Spanish.

519 THE SPANISH CIVIL WAR AND ITS CULTURAL IMPACT 4 credits
Prerequisite: 415 or permission of instructor. Study of the impact of the Civil War on Spanish culture.

522 SPECIAL TOPICS IN LANGUAGE SKILLS OR CULTURE OR LITERATURE 4 credits
Prerequisite: 407 or 408 or permission. May be repeated. Development of specialized language skills or reading of significant works of culture or literature not studied in other courses.

523 SPANISH-AMERICAN LITERATURE BEFORE 1900 4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading of representative Spanish-American literature from the discovery to 1900. Oral and written reports. Conducted in Spanish.

524 RACE AND ETHNICITY: INDIGENOUS CULTURES IN SPANISH-SOUTH AMERICA 4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and analysis of selected works from the 20th century that depict women in Hispanic countries. Methodologies of feminist criticism will be studied. Conducted in Spanish.

525 20TH CENTURY SPANISH-AMERICAN NOVEL 4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and discussion of representative contemporary Latin American novels. Conducted in Spanish.

527 LATINO CULTURES IN THE USA 4 credits
Prerequisites: 407 and 408 or permission of instructor. Reading and discussion of works related to the Latinx community of the USA. Conducted in Spanish.

529 CULTURE AND LITERATURE OF THE HISPANIC CARIBBEAN 4 credits
Prerequisite: 407 or 408 or permission of instructor. Emphasis on customary traditions and literature, including lectures, films, slides, and analysis of selected works by contemporary Hispanic authors from the Caribbean. Conducted in Spanish.

530 WOMEN IN 20TH CENTURY HISPANIC LITERATURE 4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and analysis of selected works from the 20th century that depict women in Hispanic countries. Methodologies of feminist criticism will be studied. Conducted in Spanish.

531 HISPANIC CULTURE: SPAIN 4 credits
Prerequisites: 407 or 408 or permission of study of society, custom, history, art, music, etc. from a Hispanic perspective. Conducted in Spanish.

532 HISPANIC CULTURE: SOUTH AMERICA 4 credits
Prerequisite: 407 or permission of study of society, custom, history, art, music, etc. from South America from a Hispanic perspective. Conducted in Spanish.

533 HISPANIC CULTURE: MEXICO AND CENTRAL AMERICA 4 credits
Prerequisite: 407 or equivalent. Study of society, history, and culture of Mexico, Central America and the Hispanic Caribbean from a Hispanic perspective. Conducted in Spanish.

571 SPANISH LANGUAGE READING PROFICIENCY 4 credits
Designed to develop proficiency in reading comprehension.

601 SEMINAR ON MEDIEVAL SPANISH LITERATURE 4 credits
Reading and discussion on monarchical medieval literary works of Spain such as Poema del Caballero y La Torre. Conducted in Spanish.

609 SEMINAR ON SPANISH LITERATURE OF THE GOLDEN AGE 4 credits
Prerequisite: 407 or 408 or permission of instructor. Study of major figures in Spanish literature, including the works of Miguel de Cervantes and others. Conducted in Spanish.

610 SEMINAR ON SPANISH LITERATURE OF THE 18TH AND 19TH CENTURIES 4 credits
Prerequisite: 407 or 408 or permission of instructor. Reading and discussion of significant works written during these periods. Conducted in Spanish.

612 SEMINAR ON SPANISH-AMERICAN LITERATURE 4 credits
Reading and discussion of significant works written in Spanish or Spanish America. Conducted in Spanish.

617 SEMINAR ON 20TH CENTURY SPANISH-AMERICAN LITERATURE 4 credits
Reading and discussion of contemporary writers with emphasis on some of the most important works of the last century. Conducted in Spanish.

621 SEMINAR ON 20TH CENTURY SPANISH LITERATURE 4 credits
Studies in representative present-day writers with emphasis on novel, theatre and short stories. Conducted in Spanish.

661 SPANISH TEACHING PRACTICUM 2 credits
Prerequisite: teaching assistantship or permission. Orientation and practice of selected aspects of teaching Spanish language and culture. Student teaching experiences are critically reviewed and evaluated. These credits may not be applied toward degree requirements.

6978 INDIVIDUAL READINGS IN SPANISH 4 credits
Content of given individual reading program taken from course contests approved for graduate work in Spanish.

699 MASTER'S THESIS 4 credits

PHILOSOPHY

3600:

511 PLATO 2 credits
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.

518 ANALYTIC PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. Study of major logical and ordinary language movements in 20th Century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Tylor and Austin.

519 BRITISH EMPIRICISM 3 credits
Prerequisite: one course in philosophy or permission of instructor. Intensive analysis of selected major writings of Locke, Berkeley and Hume.

521 PHILOSOPHY OF LAW 3 credits
Prerequisite: one course in philosophy or permission of instructor. Philosophical inquiry into the nature of law and legal institutions.

522 CONTINENTAL RATIONALISM 3 credits
Prerequisite: one introductory course and 513 or permission of instructor. Intensive analysis of selected major works of Descartes, Spinoza and Leibniz.

524 EXISTENTIALISM 3 credits
Prerequisite: one introductory course in philosophy. Philosophical inquiry into the nature of the problems of freedom, reality, faith and the meaning of human existence.

526 PHENOMENOLOGY 2 credits
Prerequisite: one introductory course in philosophy. Philosophical inquiry into the meaning of the philosophies of Husserl and Heidegger and their influence upon Western European thought.

532 ARISTOTLE 3 credits
Prerequisite: 211 or permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of mankind and ethics. Taught in alternate years.

534 KANT 3 credits
Prerequisite: 513 or permission of instructor. Study of Kantian system of thought and its relation to history of philosophy. Includes thorough investigation of one or more of Kant's philosophical works.

562 THEORY OF KNOWLEDGE 3 credits
Prerequisite: one course in philosophy or permission of instructor. Examination of nature of knowledge: theories of perception, conception and truth, problem of induction and relation of language to knowledge.

564 PHILOSOPHY OF SCIENCE 3 credits
Prerequisite: 530, 513 or permission of instructor. Nature of scientific inquiry, types of explanations, laws and causality, theoretical concepts and reality. Also includes criticism of hypothetical-deductive view of science, e.g., Hempel and Kuhn.

571 METAPHYSICS 3 credits
Prerequisite: one course in philosophy or permission of instructor. Study of ultimate nature and ultimate explanation of reality. Uses reading from classical and contemporary sources.

580 SEMINAR 3 credits
May be repeated. Prerequisite: permission of instructor.

581 PHILOSOPHY OF LANGUAGE 3 credits
Prerequisites: 510 and 170 or permission of instructor. Contemporary philosophy about the nature of language and its relation to reality and human thinking. Includes discussion of views of logic, truth, meaning and rationality.

597 INDIVIDUAL STUDY 1-3 credits
May be repeated. Prerequisite: permission of instructor. May be repeated for a total of six credits. Prerequisite: completion of required course of philosophy or permission of instructor and department head. Individual independent study of philosophical problems under guidance of selected faculty member. Subject matter determined by selected faculty member in consultation with student. Graduate credit requires significant additional work which may include additonal research paper.

PHYSICS

3650:

500 HISTORY OF PHYSICS 3 credits
Prerequisites: 292 or 299. Study of origin and evolution of major principles and concepts characterizing contemporary physics.

506 PHYSICAL OPTICS 3 credits
Prerequisites: 300 and 3540-235. Propagation, refraction, and reflection of electromagnetic waves, superposition, polarization, interference and interferometers, Fresnel and Fraunhofer diffraction, Fourier optics, coherence theory and quantum optics.

510 VACUUM SCIENCE AND TECHNOLOGY 3 credits
Prerequisite: 300. An interdisciplinary course stressing the fundamentals and applications of vacuum science, including selection of materials, pressure measurement and vacuum attachment, safety precautions, etc.

531 MECHANICS I 3 credits
Prerequisites: 292 and 3450-235. Mechanics at intermediate level: Newtonian mechanics, motion of a particle in one dimension, central field problems, system of particles, conservational laws, rigid bodies, gravitation.

532 MECHANICS II 3 credits
Prerequisites: 3450-235. Advanced mechanics at the senior or beginning graduate level, including coordinate systems, mechanics of continuous media, Lagrange's equations, tensor algebra and stress analysis, rotation of rigid bodies, vibration theory.
536 ELECTROMAGNETISM I 3 credits
Prerequisites: 292, 3450:235 or permission of instructor. Electromagnetism at intermediate level. Electromagnetic fields, wave propagation, lens theory, and applications. Optics, antenna theory, quantum mechanics fundamentals, and electrodynamics.

537 ELECTROMAGNETISM II 3 credits
Prerequisite: 536. Special relativity, four vectors, Maxwell's equations in covariant form, propagation, reflection and refraction of electromagnetic waves, microwave technology.

541 QUANTUM PHYSICS I 3 credits
Prerequisite: 531 and 532:235. Laboratory course stressiing measurement techniques and the development of temporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Quantum mechanics, wave-particle duality, quantum states, quantum mechanics, quantum mechanics fundamentals, and quantum states.

542 QUANTUM PHYSICS II 3 credits
Prerequisite: 441:541. Special applications of quantum mechanics to atomic, nuclear and solid state physics. Tunneling and alpha decay, potential periodic, hydrogen and helium atoms, inverse square forces, quantum statistics.

551 ADVANCED LABORATORY I 3 credits
Prerequisite: 323 or permission of instructor. Experimental techniques applicable to research problems in contemporary physics. 11:1 spectroscopy, optical spectroscopy, lasers, SEM, and thin-film growth and characterization.

552 ADVANCED LABORATORY II 3 credits
Prerequisite: 323 or permission of instructor. Experimental projects applicable to contemporary physics. Diode and dye lasers, laser feedback, chaos, NMR, electron tunneling, and fiber optics.

556 TECHNIQUES OF PHYSICS INSTRUCTION 1 credit
Teaching assistants are introduced to current research in learning physics, shown applications for their laboratory, and trained in skills needed as a laboratory teaching assistant.

568 DATA ACQUISITION 3 credits
Prerequisite: 550 or 202. Designed to introduce science and mathematics students to use of digital techniques of interfacing instruments to microcomputers. Physical measurements and device control are emphasized.

570 INTRODUCTION TO SOLID-STATE PHYSICS 3 credits
Prerequisite: 441 or permission of instructor. Account of basic physical processes occurring in solids, with emphasis on fundamental relation between these processes and periodicity of crystalline lattice.

581, 582 METHODS OF MATHEMATICAL PHYSICS I and II 3 credits each
Prerequisite: 521 and 523 or sophomore and junior graduate standing in physical science or engineering. Methods of mathematical physics, differential equations, vector calculus, complex variables, linear algebra, integral transforms, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variables, analytic functions, Green's functions, integral equations.

588 SELECTED TOPICS: PHYSICS 1-4 credits
May be repeated. Prerequisite: permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics.

590 WORKSHOP 1 credit
May be repeated. Prerequisite: permission. Further investigations of various selected topics in physics, under guidance of faculty member.

597 INDEPENDENT STUDY 1-4 credits
May be repeated. Prerequisite: permission. Further investigations of various selected topics in physics, under guidance of faculty member.

598 PHYSICS COLLOQUIUM 1 credit
Lectures on current research topics in physics by invited speakers. May be repeated, but only one credit counts toward M.S. degree. Credit/No credit.

605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I 3 credits
Prerequisite: 605 or permission. Introduction to FORTRAN and basic topics in computer science. Numerical solutions to physics problems, including Newton's and Schrodinger's equations. Treatment and reduction of experimental data, plotting, simulation.

606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II 3 credits
Prerequisite: 605 or permission. Data reduction, Controlling, plotting, comparison of theoretical models with data, linear and nonlinear least squares curve-fitting. May accommodate scientific problems of individual interest.

615 ELECTROMAGNETIC THEORY I 3 credits
Prerequisite: 437:537 or permission of instructor. Electromagnetics and magnetostatics at advanced level for graduate students. Vector calculus, vector space, linear algebra, boundary value problems, electrodynamics, minimization techniques, time-varying fields, Maxwell's equations and electromagnetic waves, reflection, refraction, waves, waves guides and cavities.

616 ELECTROMAGNETIC THEORY II 3 credits
Prerequisite: 615. Scattering and diffraction, plasma physics, special theory of relativity, dynamics of relativistic particles, collisions of charged particles, radiation from moving charges, bremsstrahlung, multipole fields.

625 QUANTUM MECHANICS I 3 credits
Prerequisite: 441:541, 448:558 or permission of instructor. Basic concepts of quantum mechanics, representation theory, particle in a central field, addition of angular momenta and spins, Clebsch-Gordon coefficients, perturbation theory, scattering, transition probabilities.

626 QUANTUM MECHANICS II 3 credits

641 LAGRANGIAN MECHANICS 3 credits
Prerequisite: 432:532 or permission of instructor. Principle of least action and Lagrangian equation of motion, conservation laws, integration or equation of motion, collisions, collisions, special relativity, electromagnetic theory, canonical transformations.

651 STATISTICAL MECHANICS 3 credits
Prerequisite: 442:542 or permission of instructor. Fundamental principles of statistical mechanics, Grand Canonical Ensemble, Fermi-Dirac and Bose-Einstein Statistics, solids, liquids, gases, phase equilibrium, chemical reactions.

685 SOLID-STATE PHYSICS I 3 credits
Prerequisite: 471:541 or permission of instructor. Theory of crystals, lattice structure, properties of semiconductors, solid state concepts, electrical properties, magnetic properties, optical properties, superconductivity, phase transitions.

690 SOLID-STATE PHYSICS II 3 credits

695 SPECIAL PROBLEMS IN THEORETICAL PHYSICS 1-3 credits
Prerequisite: permission. Consideration of special topics of interest to students, by consultation with faculty member and independent study beyond available course work.

695 SEMINAR IN THEORETICAL PHYSICS 1-3 credits
May be repeated. Prerequisite: permission.

697 GRADUATE RESEARCH 1-15 credits
Prerequisite: permission. Candidates for M.S. degree may enroll in up to five credits of research offered by supervised research projects. Grades and credit received at completion of such projects.

698 SPECIAL TOPICS: PHYSICS 1-4 credits
Prerequisite: permission. Special topics in current research to be decided upon by student and instructor. May be repeated to a maximum of 6 credits.

699 MASTER’S THESIS 1-3 credits
Prerequisite: permission. With approval of department, one credit may be earned by candidate for a master’s degree, upon satisfactory completion of a master’s thesis.

710 SURFACE PHYSICS III 3 credits
Prerequisite: 470. An interdisciplinary course stressing the fundamentals and applications of physics of surfaces, including corrosion, catalysis, adsorption, and tribology.

711 CRITICAL PHENOMENA AND PHASE TRANSITIONS 3 credits

3700: POLITICAL SCIENCE

502 POLITICS AND THE MEDIA 3 credits
Examination of relationships between the press, the news media and political decision makers.

505 POLITICS IN THE MIDDLE EAST 3 credits
The Middle Eastern state system before and after World War II; an analysis of the sociopolitical, ideological forces influencing the political behavior of the people of the Middle East; in-depth study of selected political systems.

510 INTERNATIONAL DEFENSE POLICY 3 credits
Prerequisite: At least one of the following: 220, 330, 3400:340, 360, 420, 408, or permission. Introduction to political uses of military forces. Major focus on methodological, conceptual, and methodological dilemmas in developing and implementing defense policy.

512 GLOBAL ENVIRONMENTAL POLITICS 3 credits
Prerequisites: 360, 370, or permission of instructor. Examines the general dimensions of the global environmental challenge, including the roles played by technology and the structure of the world system.

515 COMPARATIVE FOREIGN POLICY 3 credits
Prerequisite: 335 or 220 or permission. Study of foreign policies of selected nations, with special attention to processes and institutions of decision making of the major powers.

540 SURVEY RESEARCH METHODS 3 credits
Prerequisite: 435 or MATH 221 or permission. Study of the survey research methods as applied to the analysis of public opinion, political behavior and public policy formation.

541 THE POLICY PROCESS 3 credits
Prerequisites: eight credits in political science. Intensive study of policy-making process, emphasizing roles of various participants in executive and legislative branches as well as private individuals and groups.

542 METHODS OF POLICY ANALYSIS 3 credits
Prerequisite: 223. Examines variety of methods available for analyzing public policies. Techniques of cost-benefit analysis, evaluation research, quasi-experimentation are covered as well as consideration of ethical questions or policy analysis. The practical problems facing policy analysts. (May be repeated.)

546 THE SUPREME COURT AND CONSTITUTIONAL LAW 3 credits
Prerequisite: 100 or permission. Development of the Constitution of the United States, its role in American government, its developing role in American society.

546 THE SUPREME COURT AND CIVIL LIBERTIES 3 credits
Prerequisite: 100 or permission. Development of the Constitution of the United States, its role in American government, its developing role in American society. Focus on freedom of speech and press, freedom of religion, criminal rights and role of Supreme Court.

579 CAMPAIGN MANAGEMENT I 3 credits
Prerequisites: 470/570, 430/530. The second course in campaign management, focusing on campaign planning, candidate organization, role of finance, and impact of other factors on campaign strategy.

580 CAMPAIGN FINANCE 3 credits
Prerequisite: permission. Reading and research in financial decision making in political campaigns.

573 VOTER CONTACT AND ELECTIONS 3 credits
Prerequisite: permission. Theoretical and practical approaches to gaining votes in all types of political campaigns.

574 POLITICAL OPINION, BEHAVIOR AND ELECTORAL POLITICS 3 credits
Prerequisite: 220 or 300. Introduction to the study of political attitudes and political behavior of individuals, in the United States and the world. Fundamental theories of political opinion formation, political behavior and attitudinal change.

575 AMERICAN INTEREST GROUPS 3 credits
Prerequisites: 435 or permission. Study of a wide variety of groups, their origins, impact and the American political system.

576 AMERICAN POLITICAL PARTIES 3 credits
Prerequisite: 435 or permission. Study of American political parties, their functions and structure.

580 POLICY PROBLEMS 3 credits
May be repeated for a total of 6 credits. Prerequisites: 435 or permission. Intensive study of selected problems in public policy.

581 THE POLITICS OF POLICY 3 credits
Prerequisite: 435 or permission. Advanced study of various political dimensions underlying the study of politics and policy in the context of political reform, action, and the community.

582 CURRENT ISSUES (CJ TOPIC) 3 credits
Prerequisite: 100. Study and critical analysis of current issues, programs, and policies relating to political science and criminal justice at the federal or state level.
560 HISTORY OF PSYCHOLOGY
Prerequisite: Admission to the Graduate School. Psychology in pre-scientific period and details of experimental or systematic viewpoints in 18th and 19th Centuries. 3 credits
569 WORKSHOP IN PSYCHOLOGY
Prerequisite: Admission to the Graduate School. May be repeated. May not be used to meet undergraduate or graduate major requirements in psychology. Group studies of special topics in psychology. 1-6 credits
569.2 PSYCHOLOGICAL RESEARCH USING QUANTITATIVE AND COMPARATIVE METHODS I AND II
4 credits each
Sequential prerequisite: Graduate standing in psychology or the collaborative doctoral program in psychology or approval of the Graduate Program Director. Psychological research problem applying quantitative and comparative methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychological measurement, error, robustness and power.
569.3 CORE COGNITIVE PSYCHOLOGY
Prerequisite: Graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of theories, concepts, empirical phenomena, and methodologies in human cognitive psychology. Topics include attention, cognitive capacity, learning, memory, categorization, skill acquisition/expertise, and training effectiveness.
569.3a INDIVIDUAL DIFFERENCES
Prerequisite: Graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of individual differences in personality and behavior and of literature on between and within group cultural variables influencing personality development and assessment.
570 GROUP COUNSELING
Prerequisite: Admission to the Graduate School (May be repeated. May not be used to meet undergraduate or graduate major requirements in psychology). Topics include application of group processes and understanding of the group context.
570.1 ADVANCED INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
Prerequisite: Graduate standing in psychology or permission of instructor. Advanced survey of industrial and organizational psychology which involves the application of psychological principles in the work place.
570.2 COUNSELING PRACTICUM I
Prerequisites: Graduate standing in psychology and permission of instructor. Introduction to and development of therapeutic skills and intervention techniques with clients. Topics include basic counseling theories, roleplaying exercises, and case conference evaluations of actual clinical work samples. (May be repeated for a total of 6 credits.) Credit/Noncredit.
570.3 COUNSELING PRACTICUM II
Prerequisites: 6 credits of 671, 779, or 5600-643, 645; or permission of instructor. Emphasis is provided on giving the student the knowledge and understanding of theory, research and techniques necessary for conducting group counseling sessions.
570.4 PROFESSIONAL PRACTICUM
May be repeated. Prerequisite: Graduate standing in psychology, Master of Education or other professional degree, and permission. Supervised work experience in an appropriate setting.
575 THEORIES OF COUNSELING AND PSYCHOTHERAPY
Prerequisite: 630 or Departmental permission. Major systems of individual psychotherapy examined within a philosophy of science framework. Focus on development and applications of human behavioral, cognitive, and experiential theories. Includes research, contemporary problems and ethics.
575.1 VOCATIONAL BEHAVIOR
Prerequisite: 630 or Departmental permission. Major systems of individual psychotherapy examined within a philosophy of science framework. Focus on development and applications of human behavioral, cognitive, and experiential theories. Includes research, contemporary problems and ethics.
580 PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING
Prerequisite: 630 or graduate standing in school psychology, and instructor's permission. History, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.

PSYCHOLOGY 3750:
500 PERSONALITY
Prerequisite: Admission to the Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and theoretical perspectives. 4 credits
500.1 PSYCHOLOGICAL TESTS AND MEASUREMENTS
Prerequisite: Admission to the Graduate School. Consideration of the nature, construction and uses of tests and measurements in industry, government and education. Includes aptitude and achievement tests, rating scales, attitude and opinion analysis. 4 credits
500.2 ANOMALOUS PSYCHOLOGY
Prerequisite: Admission to the Graduate School. Survey of syndromes, etiologies, treatments and evaluations of major psychological conditions ranging from transient maladjustments to psychoses. 4 credits
500.3 PSYCHOLOGICAL DISORDERS OF CHILDREN
Prerequisite: Admission to the Graduate School. Survey of syndromes, etiology, diagnosis and treatments of major psychological disorders ranging from transient maladjustments to psychoses. 4 credits
500.4 HUMAN RESOURCE MANAGEMENT
Prerequisite: Admission to the Graduate School. The application of psychological theory to the effective management of human resources in an organization, including recruitment, selection, training and retention of personnel. 4 credits
500.5 ORGANIZATIONAL THEORY
Prerequisite: Admission to the Graduate School. The application of psychological theory to macro-level processes in organizations including leadership, motivation, task performance, organizational theories and development. 4 credits
500.6 PSYCHOLOGY OF SOCIAL BEHAVIOR
Prerequisite: Admission to the Graduate School. Intensive study of factors affecting behavior and performance in small groups including effects of personality, social structure, norms, roles, environment and social cognitive variables. 4 credits
500.7 COGNITIVE DEVELOPMENT
Prerequisite: Admission to the Graduate School. Theory and research on human changes in cognitive processes including concept formation/ categorization, information processing and Piagetian assessment tasks. 4 credits
Courses of Instruction

SOCIOCRITICAL THEORY (3 credits)
Prerequisite: 100 or permission. An overview and examination of theoretical issues in sociocritical theory through readings of both classical and contemporary theoretical works.

FUNDAMENTALS OF SOCIOLOGY (3 credits)
Accelerated introduction to sociology for the graduate student deficient in sociological background or from other disciplines who intend to take further graduate courses in sociology. Lecture.

SOCIOLOGICAL SEMINARS IN SOCIOLOGICAL LITERATURE (1-2 credits)
Prerequisites: seven credits of sociology and permission of instructor. Intensive reading and interpretation of written material in students' chosen field. Regular conferences with instructor.

FAMILY AND SOCIETY (3 credits)
Examination of the interplay of family and society. Family as both independent/dependent variable, as market interaction, and impact of family policies is discussed.

SOCIOLOGICAL RESEARCH METHODS (3 credits)
Advanced research methods including advanced statistical techniques. Lecture/ laboratory.

SOCIAL RESEARCH DESIGN (3 credits)
Intensive analysis of problems in research design, i.e., those encountered in thesis preparation. Seminar or dissertation.

COMPUTER APPLICATIONS IN SOCIAL SCIENCES (3 credits)
Prerequisite: elementary statistics course or permission of instructor. Introduction to computers and their applications in social sciences. (Same as KSU 7224) Seminar.

SOCIAL ORGANIZATION (3 credits)
Prerequisite: three credits of sociology. An intensive analysis of problems in research design, i.e., those encountered in thesis preparation. Seminar or dissertation.

SOCLGY OF PROGRAM EVALUATION AND PROGRAM IMPROVEMENT (3 credits)
Prerequisite: permission. Program evaluation as it occurs in different social programs. Topics include history evaluation, value assumptions, political dimensions, ethical issues, social change, use of experimentation and alternatives and the use for program development. Seminar.

EPIDEMIOLOGIC METHODS IN HEALTH RESEARCH (3 credits)
Prerequisite: permission. Designed to introduce the student to methods of developing and understanding information concerning the distribution of illness and injury in society and evaluation of interventions to reduce the burden.

SOCIOLOGICAL THEORY (3 credits)
Examination of the classical theoretical statements that form the foundation of sociological theory. Emphasizes classic sociological theory and its contributions to contemporary theory development. Seminar.

SOCIAL PSYCHOLOGY (3 credits)
Intensive examination of social psychological theory and research on linkages between personality and social behavior. Some applications in studies of modernization, social class and occupations and sex roles. (Same as KSU 72433) Seminar.

PERSONALITY AND SOCIAL SYSTEMS (3 credits)
Examination of contemporary thought and research on personality and social systems. (Same as KSU 72401) Seminar.

SOCIAL ORGANIZATION (3 credits)
General survey of major theories and concepts foring to creation, alteration and dissolution of social organization at various levels of social complexity. (Same as KSU 7264) Seminar.

SOCIAL STRATIFICATION (3 credits)
Prerequisite: permission. Seminar dealing with social class and careers with special reference to American social structure. (Same as KSU 7264) Seminar.

COMPLEX ORGANIZATIONS (3 credits)
Prerequisite: permission. Organizations as social systems, their effect on individuals. Probable influences on social change. (Same as KSU 7264) Seminar.

SOCIOLOGY OF WORK (3 credits)
Examination of work as behavioral phenomenon in human societies; contrasts with non-work and leisure. Emphasis on specialization, professional and worker types in organization of work. (Same as KSU 7264) Seminar.

SEMINAR IN RACE RELATIONS (3 credits)
Prerequisite: permission. Analysis of the structure and dynamics of race and ethnic relations with attention given to both historical and contemporary issues. (Same as KSU 7264) Seminar.

MEDICAL SOCIOLOGY (3 credits)
Prerequisite: permission of instructor. A general overview of the field of medical sociology with special emphasis on application of sociological concepts and methods as tools to aid in the analysis of health and health care in the contemporary urban United States. (Same as KSU 7232) Seminar.

URBAN HEALTH CARE (3 credits)
Prerequisite: permission. Relationships between urban social structures and processes and organization and functioning of healthcare delivery systems in urbanized settings. Seminar.

DEVIANC AND DISORDERIZATION (3 credits)
Prerequisite: permission. Examination of nature and types of deviance. Problems and issues in theory and research. (Same as KSU 7264) Seminar.

SOCIOLOGY OF CRIMINAL BEHAVIOR (3 credits)
Analysis of the relationship of crime and deviancy to social structure and social processes. Responses by criminal justice agencies. Seminar.

JUVENILE DELINQUENCY: THEORY AND RESEARCH (3 credits)
Prerequisite: permission. Analysis of theories of delinquency, ecological, class structural, sub- structural, etc. Review of relevant research also presented. Seminar.

SOCIOLOGY OF CORRECTIONS (3 credits)

FAMILY ANALYSIS (3 credits)
Prerequisite: permission. Analysis and evaluation of sociological theory and research in the family. Concentration on trend of theory construction and research design in sociological study of the family. (Same as KSU 7264) Seminar.

SOCIAL GERONTOLGY (3 credits)
Prerequisite: permission. Impact of aging upon individuals and society. Reactions of individuals and society to aging. (Same as KSU 7277) Seminar.

POLITICAL SOCIOLOGY (3 credits)
Description, analysis and interpretation of political behavior through application of sociological concepts. (Same as KSU 7264) Seminar.

CROSS CULTURAL PERSPECTIVES IN AGING (3 credits)
Prerequisite: permission. A comparison of aging in various cultures and societies around the world.

POPULATION (3 credits)
Analysis of topic population theory and methods. Trends and differentials in fertility, mortality, nuptiality and selected social demographic variables also considered. (Same as KSU 7264) Seminar.

SOCIAL CHANGE (3 credits)
Advanced seminar in theories of social change. (Same as KSU 7264) Seminar.

SOCIOLOGY OF CONTEMPORARY SOCIOLOGICAL LITERATURE (1-2 credits)
Prerequisites: seven credits of sociology and permission of instructor. Intensive reading and interpretation of written material in students' chosen field. Regular conferences with instructor.

DIRECTED RESEARCH (1-2 credits)
May be repeated. Prerequisite permission. Empirical research to be conducted by the student under graduate faculty supervision.

MASTER'S RESEARCH (2-5 credits)
May be repeated for a total of six credits. Prerequisite permission. Supervised thesis writing.

COLLEGE TEACHING OF SOCIOLOGY (3 credits)
Prerequisite: permission. Preparation, teaching methods and theory of college teaching of sociology. Not approved as credit toward a degree. Seminar.

MULTIVARIATE TECHNIQUES IN SOCIOLOGY (3 credits)
Prerequisites: 603 and 604, or permission. A sociology graduate student only. Methodological problems utilizing advanced multivariate techniques in analysis of sociological data. Topics include nonexperimental causal analysis such as recursive and nonrecursive path analysis. (Same as KSU 7227) Seminar.

MEASUREMENT IN SOCIOLOGY (3 credits)
Prerequisite: 706 or permission. Theory and methods of measurement reliability and validity in sociological research. Topics include estimating reliability and validity, scale and item design, alternative measurement strategies, measurement models. Seminar.

ADVANCED TECHNIQUES IN RESEARCH (1-3 credits)
Prerequisite: permission. Selected concepts in advanced, multivariate statistical analysis and in strategies of sociological research. Emphasis on current trends and innovations in research techniques. (Same as KSU 7228) Seminar.

ANALYSIS OF SOCIOLOGICAL DATA (3 credits)
Prerequisite: 706 or permission. For advanced research. Data analysis techniques having particular relevance to research problems in sociology. (Same as KSU 7228) Seminar.

SOCIAL SAMPLING (3 credits)
Prerequisites: 603, 604, or permission. Theory and methods of sampling in sociological research. Topics include sample design, sampling efficiency, nonresponse, mortality in longitudinal designs, surveys of organizations, and survey sampling. Stratified and cluster sampling. Seminar.

SURVEY RESEARCH METHODS (3 credits)
Prerequisites: 603 and 604, or permission. Introduction to design and administration of social surveys. (Same as KSU 7228) Seminar.

EXPERIMENTAL AND OBSERVATIONAL RESEARCH IN SOCIOLOGY (3 credits)
Prerequisites: 603, 604, or permission. Application of experimental and quasi-experimental methods in sociological research with special attention given to appropriate designs, statistical analysis and experimental control. Seminar.

QUALITATIVE METHODOLOGY (3 credits)
Prerequisites: 603, 604, or permission. Theory building and theory testing through the application of qualitative techniques as observed in contemporary sociological research. The development of appropriate designs for qualitative research. (Same as KSU 7228) Seminar.

SPECIAL TOPICS IN SOCIOLOGICAL THEORY (1-3 credits)
Open course to cover content area not readily subsumable under other headings. Consent of course to be determined by instructor. (Same as KSU 7264) Seminar.

EARLY SOCIOLOGICAL THOUGHT (3 credits)
Prerequisite: 607 or permission. Two to four major sociological thinkers prior to 1930 examined in depth. Specific persons considered will be chosen by instructor but will be announced well in advance of beginning of class. (Same as KSU 7264) Seminar.

Seminars in Sociological Theory (3 credits)
Prerequisite: permission. Intensive, critical analysis of current scholarship in a broad area of contemporary sociological thought. Virtually all required reading will be from primary sources. (Same as KSU 7264) Seminar.

SOCIOLOGY OF HEALTH BEHAVIOR (3 credits)
Sociological analysis of the major theories and research on health and illness and the utilization of health services. (Same as KSU 7264) Seminar.

STRATIFICATION AND HEALTH (3 credits)
Prerequisite: permission. Race, social class, and gender differences in physical and mental health status, helping behaviors, and health care. Race, class, and gender stratification of health care workers. (Same as KSU 7233) Seminar.

SOCIOLOGY OF OCCUPATIONS, PROFESSIONS AND HEALTH CARE (3 credits)
Sociological examination of the organization of work in the health care field with emphasis on occupations, professions, and health care delivery. (Same as KSU 7233) Seminar.

SOCIOLOGY OF MENTAL HEALTH AND MENTAL DISORDERS (3 credits)
Sociological examination of the social processes that affect mental health that frame cultural ideas of normality and illness, and that define clinical pathology. (Same as KSU 7264) Seminar.

CONTEMPORARY TRENDS IN SOCIAL PSYCHOLOGY (1-3 credits)
Prerequisite: permission. Selected topics on significant contemporary issues, theories and methodological development in social psychology. (Same as KSU 7245) Seminar.

RESEARCH IN SOCIAL PSYCHOLOGY (1 credit)
Prerequisite: 631. Design and development of a research project oriented to empirically examining selected concepts in social psychology or to testing selected propositions in social psychology. (Same as KSU 7243) Research.

URBAN SOCIOLOGY (3 credits)
Prerequisite: permission. Analysis of the urban process and review of major contributions to empirical analysis of urban life. (Same as KSU 7259) Seminar.

SPECIAL TOPICS IN SOCIAL ORGANIZATION (1-3 credits)
Prerequisite: permission. Course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 7259) Seminar.

SPECIAL TOPICS IN DEVIANCE AND DISORDERIZATION (1-3 credits)
Prerequisite: permission. Course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 7259) Seminar.

INDIVIDUAL INVESTIGATION (1-3 credits)
Prerequisite: one semester of graduate work; permission of instructor, advisor and head of department. Readings and/or research supervised by member of graduate faculty. (Same as KSU 7286) Seminar.

DOCTORAL DISSERTATION (0-10 credits)
Must be repeated for a minimum of 90 credits. Dissertation. (Same as KSU 8296)
ANTHROPOLOGY 3870:

055 CULTURE AND PERSONALITY 3 credits
Prerequisite: 150 or permission. Examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.

057 CULTURE AND MEDICINE 3 credits
Prerequisite: 150 or permission. Analyzes various aspects of Western and non-Western medical systems from an anthropological perspective. Compares traditional medical systems around the world.

560 QUALITATIVE METHODS: BASIS OF ANTHROPOLOGICAL RESEARCH 3 credits
Provides foundation for interpretive methods. Includes key informant interviewing, focus groups and other methods. Includes the use of computer-based programs for rapid analysis.

563 SOCIAL ANTHROPOLOGY 3 credits
Prerequisite: 150 or permission. Comparative structural analysis of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households and other kinship groupings. Lecture.

572 SPECIAL TOPICS: ANTHROPOLOGY 3 credits
(May be repeated: Prerequisites: 150 and permission. Designed to meet needs of students with interests in selected topics in anthropology. Offered irregularly when resources and opportunities permit. May include archaeological field school, laboratory research or advanced course work, not presently offered by department on regular basis.

594 WORKSHOP IN ANTHROPOLOGY 1-3 credits
(May be repeated: Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.

661 SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS 3 credits

679 INDIVIDUAL INVESTIGATION 1-3 credits
Prerequisites: permission of instructor and head of department. Intensive study of a student's chosen field of interest. Regular conferences with instructor. Preparation of a research paper.

PUBLIC ADMINISTRATION AND URBAN STUDIES 3980:

590 WORKSHOP 1-3 credits
(May be repeated: Group studies of special topics in urban studies. May not be used to meet graduate major requirements or urban studies. May be used for elective credit only.

600 BASIC ANALYTICAL RESEARCH 2 credits
Prerequisite permission. Overview of the basic framework of social science research methodologies and basic complex statistical techniques, including probability and sampling most useful in urban studies.

601 ADVANCED RESEARCH AND STATISTICAL METHODS 3 credits
Prerequisite: 600. Extends study of social science to include more advanced research designs and multivariate statistical techniques.

602 HISTORY OF URBAN DEVELOPMENT 2 credits
Examination of major literature on processes of urbanization in United States and selected facets of urban institutional development.

610 LEGAL FOUNDATIONS OF PUBLIC ADMINISTRATION 3 credits
Prerequisite permission. An examination of the legal foundations and context of public administration, including the interaction of the course, public organizations, public administration and the public policy process.

611 INTRODUCTION TO THE ADMINISTRATION OF PUBLIC ADMINISTRATION 2 credits
Prerequisite permission. Introduction to the theory and practice of the field of public administration. Foundation course for later MPA study.

612 NATIONAL URBAN POLICY 3 credits
Prerequisite permission. Major federal policies that relate to urban problems examined in regard to policy-making processes, implementation and impact.

613 INTERGOVERNMENTAL MANAGEMENT 3 credits
Prerequisite permission. Examination of the field of intergovernmental relations as it applies to urban administration and management.

614 ETHICS AND PUBLIC SERVICE 3 credits
Prerequisite permission. Examination of the ethical problems and implications of decisions and policies in the field of urban policy. Case studies of decision making in both the public (government) and private (business and the professions) spheres. Applied to urban policy making in urban communities.

615 PUBLIC ORGANIZATION THEORY 3 credits
Prerequisite: 611 or 612 or equivalent. Examination of theories of public organizational behavior, including political science approaches and the development of the field of public administration.

616 PERSONNEL MANAGEMENT IN THE PUBLIC SECTOR 3 credits
Fundamental issues and principles of public sector personnel administration, including recruitment, selection, training, motivation, supervision, evaluation, labor relations and affirmative action.

617 LEADERSHIP AND DECISION-MAKING 3 credits
Examines the process of public organizational decision-making, including relevant organizational theories; strategic management and planning; and public sector leadership.

618 CITIZEN PARTICIPATION 3 credits
Theoretical and practical analysis of simple and complex forms of citizen participation in the decision making process.

620 SOCIAL SERVICES PLANNING 3 credits
Prerequisite permission. In-depth analysis of the social services requirements and various services in which social services planning function is carried out in urban communities.

621 URBAN SOCIETY AND SYSTEM SERVICES 3 credits
Prerequisite permission. Analysis of social bases of urban society and problems, relationships to planning, public services, and the urban environment.

622 URBAN PLANNING AND HEALTH CARE 3 credits
Basic knowledge of the health service delivery system is provided for planners and administrators in the public sector.

623 PUBLIC WORKS ADMINISTRATION 3 credits
Prerequisite permission. Examines the building, maintenance and management of public buildings and facilities.

626 PARKS AND RECREATION 3 credits
Prerequisite permission. Deals with theory, practice, evaluation of recreational administration, parks planning.

640 FISCAL ANALYSIS 3 credits
Prerequisite permission. Study of revenue and expenditure patterns of the city's government.

641 URBAN ECONOMIC GROWTH AND DEVELOPMENT 3 credits
Prerequisite permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.

642 PUBLIC BUDGETING 3 credits
Prerequisite permission. Current professional practice and theoretical issues in public budgeting and management of capital and operating budgets.

643 INTRODUCTION TO PUBLIC POLICY 3 credits
Prerequisite permission. Introduction to models of public policy formulation: identification of public policy issues, and the analysis of policy implementation and policy impact.

650 COMPARATIVE URBAN SYSTEMS 3 credits
Prerequisite permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.

670 RESEARCH FOR FUTURE PLANNING 3 credits
Prerequisites 600 and 612. Completion of eight credits of core curriculum in urban studies. An overview of the techniques associated with the field of futures research and their application to long-term urban planning.

671 PROGRAM EVALUATION IN URBAN STUDIES 3 credits
Prerequisite: 612 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of human services programs and policies affecting urban and metropolitan societies.

672 ALTERNATIVE URBAN FUTURES 3 credits
Overview of topics and issues associated with alternative urban futures and their implications for planning and public policy in urban communities.

673 COMPUTER APPLICATIONS IN PUBLIC ORGANIZATIONS 3 credits
Overview of topics and issues associated with alternative urban futures and their implications for planning and public policy in urban communities.

674 ANALYTICAL TECHNIQUES FOR PUBLIC ADMINISTRATORS 3 credits
Prerequisite: 600. Public applications of computer methods including data management, decision making and simulation.

675 FISCAL ANALYSIS 3 credits
Prerequisite permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.

676 PLANNING AND MANAGEMENT STRATEGIES 3 credits
Prerequisite permission. Analysis of urban planning policy issues and strategies for implementation in public policy formulation. Emphasis on use of planning process as integrative mechanism.

678 URBAN POLICY: THE HISTORICAL PERSPECTIVE 3 credits
Prerequisite permission. Survey of urban policy: the history of ideas about the city from Aristotle to the 19th Century and of the impact on urbanization on society and public policy.

679 SYSTEMS AND PROCESSES OF POLICY ANALYSIS 3 credits
Prerequisite permission. Analysis of administrative processes within public organizations, federal, state and local government, and private sector organizations.

711 SEMINAR IN PUBLIC ADMINISTRATION 3 credits
Prerequisite permission. In-depth review and critique of major intellectual traditions, concepts and case studies underlying public administration in the United States.
SEMINAR IN URBAN AND REGIONAL PLANNING  
3 credits  
Prerequisite: permission. In-depth review and critique of major intellectual traditions, concepts and theories underlying policy analysis and evaluation in the United States.

Comparative Planning Strategies  
3 credits  
Prerequisite: 720 or permission. Review and analysis of alternative planning theories, institutions, and implementation strategies in a variety of national settings.

Urban Tutorial  
2 credits  
Prerequisite: permission. Intensive study of a particular approved field or typical area of urban studies under the supervision of a tutor.

Doctoral Dissertation  
15 credits  
May be repeated. Open to properly qualified student accepted as candidate for Doctor of Philosophy degree. Student must register for at least three credits each semester until dissertation is accepted. Minimum of 15 credits required.

Courses of Instruction

College of Engineering

CHEMICAL ENGINEERING 4200:

561 SOLIDS PROCESSING  
3 credits  
Prerequisites: 231 and 353 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving particulate solids in liquid and gas continua.

563 POLLUTION CONTROL  
3 credits  
Prerequisite: 353 or permission. Air and water pollution sources and problems. Engineering aspects and methodology.

566 DIGITIZED DATA AND SIMULATION  
3 credits  
Prerequisite: permission. Data acquisition and analysis by digital devices, digital control applications and design.

570 ELECTROCHEMICAL ENGINEERING  
3 credits  
Prerequisites: 322, 330. Chemical engineering principles as applied to the study of electrode processes and to the design of electrochemical reactors. Topics include electrochemical thermodynamics, cell polarizations, Faraday’s laws, electrode kinetics, transport processes in electrochemical systems, current distributions, separator design, experimental methods, commercial processes, and batteries and fuel cells.

572 SEPARATION PROCESSES IN BIOCHEMICAL ENGINEERING  
3 credits  
Prerequisite: 353. Introduction to the separation and purification techniques pertinent to bioproducts, with emphasis on the engineering considerations for large-scale operations.

600 TRANSPORT PHENOMENA  
2 credits  
Prerequisite: 322 or permission. Systematic presentation of conservation of momentum, energy and mass at the microscopic and macroscopic levels in conjunction with illustrative examples and analogies.

605 CHEMICAL REACTION ENGINEERING  
3 credits  
Prerequisite: 330 or permission. Kinetics of homogeneous and heterogeneous systems. Reactor design for ideal and non-ideal flow systems.

610 CLASSICAL THERMODYNAMICS  
3 credits  

622 BIOCHEMICAL ENGINEERING  
3 credits  
Application of chemical engineering principles to biological processes which produce desirable compounds or defeat undesirable or hazardous substances.

630 CHEMICAL PROCESS DYNAMICS  
3 credits  
Prerequisite: 300. Development and solutions of mathematical models for chemical processes including models based on transport phenomena principles, population balance methods, and systems analysis.

631 CHEMICAL ENGINEERING ANALYSIS  
3 credits  
Prerequisites: 322, 225, 330. Mathematical analysis of problems in transport processes, chemical kinetics and control systems. Solutions techniques for these problems and their practical significances are stressed. Heuristic proofs will be given for necessary theory developments.

632 NONLINEAR DYNAMICS AND CHAOS  
2 credits  
Prerequisite: 2480/225. Description and analysis of the complex behavior exhibited by nonlinear equations. Emphasis is on the numerical methods to quantify chaos.

634 APPLIED SURFACTANT SCIENCE  
2 credits  
Prerequisite: 610. The basics of surfactant science, the chemical engineering application of surfactants, including use in polymerization media, separations, emulsions, micelles, and as rheology modifier.

635 ADVANCED POLYMER ENGINEERING  
3 credits  
Prerequisite: 322 or 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer morphology.

640 ADVANCED PLANT DESIGN  
3 credits  
Prerequisite: permission. Topical treatment of process and equipment design, scale-up, optimization, process synthesis, process economics, failure problems.

660 HETEROGENEOUS CATALYSIS  
3 credits  
Prerequisites: 330, 322. Kinetics and mechanisms of heterogeneous and homogenous catalytic reactions, characterization and design of heterogeneous catalysts.

696 TOPICS IN CHEMICAL ENGINEERING  
1-3 credits  
(May be repeated for a total of six credits.) Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena, and new separation techniques.

698 MASTERS RESEARCH  
1-6 credits  
Prerequisite: Permission of advisor. May be repeated. Research on a suitable topic in chemical engineering culminating in a master’s thesis.

699 MASTERS’ THESIS  
1-6 credits  
(May be repeated to a maximum of six credits.) For properly qualified candidate for master’s degree. Supervised original research in a specific area of chemical engineering selected on basis of availability of staff and facilities.

701 ADVANCED TRANSPORT PHENOMENA  
3 credits  
Prerequisite: 600. Advanced theory of transport phenomena such as applied tensor analysis, constitutive equations, multiphase reacting transport and multiphase transport, illustrative practical examples presented.

702 MULTIPHASE TRANSPORT PHENOMENA  
3 credits  
Prerequisite: 600. General transport theory and kineclastics, Coulomb’s law, and the jump boundary conditions are developed followed by the theory of volume averaging. The single phase relationships are then volume averaged to obtain the volume averaged equation. The technique for using these equations and their practical significance is also covered.

706 ADVANCED REACTION ENGINEERING  
3 credits  
Prerequisite: 605. Kinetics of heterogeneous systems, steady and unsteady state mathematical modeling of chemical reactors, fluidization and additional topics drawn from current literature.
100  The University of Akron

CIVIL ENGINEERING

ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS
Prerequisite: 600. Advanced topics in thermodynamics, including phase and reaction equilibria at high pressures, phase diagrams, multicomponent systems, reaction equilibria in multicomponent systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium thermodynamics and current topics from literature. 3 credits

MOMENTUM TRANSPORT
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids. 3 credits

NEUTRON FLUID MECHANICS
Prerequisite: 600. Tensor and coordinate transformations. Newtonian viscometry. Development of non-Newtonian constitutive equations. Special and general flows of various constitutive models. 3 credits

ENERGY TRANSPORT
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer starting with fundamentals of continuum, motion and energy. 3 credits

TOPICS IN ENERGY TRANSPORT
Prerequisite: 720. Advanced analytical and graphical methods for solving common heat transfer problems found in chemical engineering. 3 credits

GEOPHYSICAL MEASUREMENTS
Prerequisite: 600. Theory of mass transfer with applications to absorption, adsorption, distillation and heterogeneous catalysis. 3 credits

PROCESS CONTROL
Prerequisite: 520. Introduction to modern control theory of chemical processes including cascade control, multivariable control and data sampled control. 3 credits

POLYMER ENGINEERING TOPICS
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase systems, multiphase flow, critical fiber engineering, etc. 3 credits

CHEMICAL PROCESSING OF ADVANCED MATERIALS
Prerequisite: 600. Advanced materials such as ceramics, optical materials, sensors, catalysts, application of reaction engineering to solid-gas processing, ceramic processing, modified chemical vapor deposition. 3 credits

ADVANCED CATALYST DESIGN
Prerequisite: 605. Development of catalyst theory and its application to the design of practical catalysts. 3 credits

ADVANCED POLLUTION CONTROL
Prerequisite: 463 or permission. Analysis of current environmental research in analytical measurement, air and water pollution control, hazardous waste treatment, and nuclear waste disposal. 3 credits

ADVANCED SEMINAR
May be repeated for a total of six credits! Prerequisite: permission of department head. Advanced projects, readings and other studies in various areas of chemical engineering intended for student seeking Ph.D. in engineering. 3 credits

PRELIMINARY RESEARCH
15 credits

DOCTORAL DISSERTATION
(3 credits plus 3 credits for a total of 15 credits.) Prerequisite: approval of dissertation proposal by the dissertation committee. 3 credits

May be taken more than once. Prerequisite: permission of department head. 3 credits

514 DESIGN OF EARTH STRUCTURES
Prerequisite: 611 or permission. Design of earth structures; dams, highway fills, cut-offs, abutments, etc. Embankment construction techniques, quality control, embankment analysis, instrumentation, foundation soil stabilization, slope stability analysis and control. Design problems. Graduate students will perform more advanced analysis and design. 3 credits

518 SOIL AND ROCK EXPLORATION
Prerequisite: 313 and 414 or permission. Field exploration, exploration criteria and planning, Conventional drilling, soil testing, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radiactive measurement. An effort in interpretation. 3 credits

523 CHEMISTRY FOR ENVIRONMENTAL ENGINEERS
Prerequisite: One year of college chemistry. General, physical, organic, biochemistry, equilibrium, and solid-state chemistry concepts applied to environmental engineering. Concepts are used in water and wastewater laboratory. 3 credits

529 ENVIRONMENTAL ENGINEERING DESIGN
Prerequisite: 323. An introduction to the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized. 3 credits

527 WATER QUALITY MODELING AND MANAGEMENT
Prerequisite: 523. Analysis of equilibrium and multicomponent systems affecting stream quality. Development of management strategies based upon the application of water quality modeling techniques to environmental systems. 3 credits

528 HAZARDOUS AND SOLID WASTE MANAGEMENT
Prerequisite: Corequisite: or permission of instructor. Hazardous and solid waste processing, processes and sources are presented. Handling, processing, storage and disposal methods are presented with environmental constraints outlined. 3 credits

543 APPLIED HYDRAULICS
Prerequisite: 341. Review of design principles, urban hydraulic, stream channel mechanics, sediment transport, control engineering. 3 credits

551 COMPUTER METHODS OF STRUCTURAL ANALYSIS
Prerequisite: Solid software. Structure analysis using computer-aided software, interactive graphics, beam stiffness and strength methods, finite element methods and matrix formulation; simple and composite structural systems modeling, vibration analysis. 3 credits

553 OPTIMUM STRUCTURAL DESIGN
Prerequisite: 306. Basic concepts in structural optimization. Mathematical programming techniques including unconstrained minimization, multivariable minimization and constrained minimization. 3 credits

554 ADVANCED MECHANICS OF MATERIALS
Prerequisite: 202 or equivalent. Three-dimensional state of stress and strain analysis. Unsymmetrical bending of statically indeterminate beams with shear deformation. Beam bending on elastic foundations. Saint Venant's torsional problem. Elastic analysis of bending and torsional members. Introduction to energy method. Instability behavior of prismatic members. 3 credits

555 TRANSPLANTATION PRACTICAL DESIGN
Prerequisite: 366. Theory and techniques for development, analysis and evaluation of transplant system plants, Emphasis on understanding and using tools and professional methods to solve transportation planning problems, especially in urban areas. 3 credits

556 HIGHWAY DESIGN
Prerequisite: 301. Study of modern design of geometrical and pavement features of highways. Design of problem and computer use. Graduate students will perform a more complex design. 3 credits

557 PAVEMENT ENGINEERING
Prerequisite: 366. Theories of elasticity, of viscoelasticity and of layered systems as applied to pavements. Pavement materials characterization; pavement design, pavement restoration for rapid and flexible pavements. 3 credits

558 TRAFFIC ENGINEERING
Prerequisite: 366. Vehicle and urban traffic characteristics, traffic flow theory, traffic studies, accident analysis, safety, traffic signal and markings, traffic signal planning, traffic control and transportation planning. 3 credits

559 ADVANCED HIGHWAY DESIGN
Prerequisite: 366. Advanced highway design. Computer-aided geometric design of highways, including survey data input, digital terrain modeling, cross-section emplstiton, horizontal and vertical roadway design, earthwork computations, and advanced topics. 3 credits

560 ADVANCED MATERIALS
Prerequisite: 360. Advanced topics in environmental science, engineering, and design of materials. 3 credits

603 DYNAMICS OF STRUCTURES
Prerequisite: 566 or permission. Experimental characterization of rock properties: Stress-strain and ground stress-strain relationships; dynamic behavior and stress-strain relations; generalized fiber analysis. 3 credits

611 FUNDAMENTALS OF SOIL BEHAVIOR
Prerequisite: 561 or permission. Experimental characterization of rock properties: Stress-strain and ground stress-strain relationships; dynamic behavior and stress-strain relations; generalized fiber analysis. 3 credits

614 FOUNDATION ANALYSIS
Prerequisite: 564, 565 or permission. Determination of properties. Graduate student requirement Graduate students will perform more advanced analysis and design. 3 credits

615 STABILITY OF GEOLOGICAL MATERIALS
Prerequisite: 564 or equivalent. Buckling of bars, beams-columns and frames. Lateral buckling of beams. Double and tangent modulus theories. Energy methods. Compressed rings and curved bars. Torsional buckling. Buckling of plates and shells. Lateral buckling. 3 credits

617 FUNDAMENTALS OF SOIL ENGINEERING
Prerequisite: 561, 564 or permission. Soil mechanics view of soil as a combination of geologic properties, stress, strain, deformation, shear strength and pore-water pressure as applied to mechanical behavior of soil masses. 3 credits

618 ADVANCED GEOCHEMICAL TESTING
Prerequisite: 313, 341. Theory and practice of static and dynamic in situ and laboratory soil testing, testing procedures, applicability, limitations. General evaluation of geotechnical parameters for embankment and special foundation investigations. One week laboratory work. 3 credits

619 FOUNDATION ENGINEERING I
Prerequisite: 313 or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Pipe driving and load test procedures and analysis. Theory and design of earth retaining structures including retaining walls, ties and bulkheads. 3 credits

620 FOUNDATION ENGINEERING II
Prerequisite: 313 or permission. Soil-structure interaction theory and applications to under ground structures including conduits, tunnels and shafts. Advanced foundation construction methods and problems including deepening, soil stabilization, undermining and cofoundations. Scope-stability analysis. 3 credits

621 SOIL IMPROVEMENT
Prerequisite: 313 and 310. Advanced stabilization, precompression with vertical drains, blasting, vibroreplacement, injection and grouting, thermal methods, electro-osmotic, soil reinforcement, case studies. 3 credits

622 NUMERICAL METHODS IN GEOTECHNICAL ENGINEERING
Prerequisite: 313 and 314. Steady-state and transient flow through soils, consolidation, soil-structure interaction, pile, stress-deformation analysis of earth structures. 3 credits

624 ROCK MECHANICS
Prerequisite: 313 or permission. Mechanics of rocks. Rock mechanics and application to rock problems, nonlinear behavior of rocks, time dependence and effects of pore pressure, experimental characterization of rock properties. Failure theory and crack propagation. 3 credits
643 INFORMATION THEORY AND CODING 3 credits
Prerequisite: 641 or permission. Sources, channels, entropy, mutual information, source coding theorem and channel coding theorem. Channel coding theorem for waveform channels. Introduction to rate-distortion theory.

644 CHANNEL CODING 3 credits
Prerequisite: 641 or permission. Algebraic structure of error-control codes, techniques for encoding and decoding. Coverage of major classes of linear block codes and convolutional codes.

646 DIGITAL SIGNAL PROCESSING 3 credits
Prerequisite: 333. Relations between continuous-time and discrete-time Fourier expansions. Sampling and aliasing, sampling conversion. Operator concepts in signal processing, allpass systems, FFT digital filter design.

647 DIGITAL SPECTRAL ANALYSIS AND SIGNAL MODELING 3 credits
Prerequisites: 640 or 684, 683, or permission. Techniques and theory of spectral analysis and signal modeling are investigated in detail. Applications of theory include speech processing, optimal filtering, and biomedical systems, digital communications.

648 DETECTION AND ESTIMATION THEORY 3 credits
Prerequisite: 641 or permission. Signal detection, estimation of signal parameters in noise, Bayes, minimax, Neyman-Pearson criteria, nonparametric and robust procedures, Wiener and Kalman filters.

649 STATISTICAL COMMUNICATION THEORY 3 credits
Prerequisite: 641 or permission. Fundamental principles of transmission of digital information over noisy channels. Optimum receivers. Bandwidth and dimension. Capacity of the bandlimited white Gaussian noise channel.

650 ELECTROMAGNETIC THEORY I 3 credits

651 ELECTROMAGNETIC THEORY II 3 credits
Prerequisite: 650 or permission of the course instructor. Scattering, TEM waves, guided wave theory, transmission lines, closed-boundary guides and cavities, modal orthogonality and completeness, electron's functions, transmission and coupling, open-boundary waveguides.

652 ADVANCED ELECTROMAGNETICS 3 credits

653 ADVANCED ANTENNA THEORY AND DESIGN 3 credits
Prerequisite: 4530 or equivalent. Basic properties and recent advances of microwave antennas. Analysis and design of reflector antennas. Analysis and synthesis of linear and planar antenna arrays.

655 DESIGN OF DIGITAL SYSTEMS 3 credits
Prerequisite: 655. Application of logic circuits in modern digital electronic computer and in digital communication systems. Computer organization and control, input/output devices and interface standards, advanced topics in computers.

658 TOPICS IN ELECTRONICS 3 credits
Prerequisite: permission of department head. Discussions of recent advances in electronics.

661 VLSI CIRCUITS AND SYSTEMS 3 credits
Prerequisite: graduate status. An introductory course designed to provide a broad understanding of very-large-scale-integrated (VLSI) systems, circuits, and devices. Topics include design, simulation, layout, fabrication, and test procedures.

663 INTEGRATED CIRCUIT DEVICES 3 credits
Prerequisite: 535, 530, or equivalent. Develops physical and analytical descriptions of solid-state electronic devices leading to equations and models of (Shockley and P-N diodes and the p-n and bipolar transistors).

667 DISCRETE CONTROL SYSTEMS 3 credits
Prerequisite: 476 or permission. Theory, techniques for analysis, design of discrete control systems. Transfer function, stability analysis, frequency response. Optimization. Digital computer control.

668 NONLINEAR CONTROL 3 credits
Prerequisite: 641 or instructor permission. Designed to provide students with qualitative insights into nonlinear systems as well as techniques for controlling such systems. Topics include describing functions, Popov and circle criteria, bumpless transfers, subharmonic, phase plane, conservative system, Lyapunov theory, bifurcation of attractors, and orbits to chaos.

671 CONTROL SYSTEM THEORY 3 credits
Prerequisite: 617 or permission. Advanced modern control theory for linear systems. Controllability, observability, minimal realizations of multivariable systems, stability, state variable feedback, and estimation. An introduction to optimal control.

672 SYSTEM SIMULATION 3 credits
Prerequisite: 472 or permission of the instructor. This course is designed to provide the control engineer with tools necessary to simulate continuous systems on a digital computer. Topics include discrete and continuous methods, nonlinear methods, special equations, optimization, parallel computer and simulation languages.

673 RANDOM PROCESS ANALYSIS 3 credits
Prerequisite: 674. Analysis and design of control systems with stochastically defined input to estimation filters.

677 OPTIMAL CONTROL 3 credits

680 DYNAMICS AND CONTROL OF POWER ELECTRONIC CIRCUITS 3 credits
Prerequisites: 48096 or equivalent. Advanced and sampled-data models for rectifiers and DC-DC converters. Small- and large-signal models about the cycic steady state. Feedback controls using classical and current applications.

681 POWER SYSTEM ANALYSIS 3 credits
Prerequisite: 480. Short circuit and load flow analysis of power systems with emphasis on computer based solution. Transmission line analysis.

682 POWER SYSTEM STABILITY 3 credits
Prerequisite: 681. Steady state and transient stability of power systems with emphasis on computer based solution.

683 ECONOMICS OF POWER SYSTEMS 3 credits
Prerequisite: 681. Analysis and operation of power system for economic dispatching using a computer.

684 PROTECTIVE RELAYING 3 credits
Prerequisite: 480. Principles and application of relays as applied to protection of power systems.

685 SURGE PROTECTION 3 credits
Prerequisite: 480. Phenomena of lightning and switching surges on electrical systems. Protection of systems and apparatus by the design, application of protective devices and insulator coordination.

686 DYNAMICS OF ELECTRIC MACHINES 3 credits
Prerequisite: graduate status in Electrical Engineering. Voltage and mechanical differential equations of electric machines. Analytical and numerical methods for solution of a system of differential equations.

687 POWER ELECTRONICS I 3 credits
Prerequisite: 46306 or equivalent. Effects of the nonideality of the power circuit components. Bipolar, unipolar, optoisolator, thyristor, and MOSFET circuity. Power electronics.

689 POWER SEMICONDUCTOR DEVICES I 3 credits
Prerequisite: graduate status in Electrical Engineering. Structure and physics of power semiconductor devices: diodes, bipolar junction transistors, MOSFETs, thyristors, Power MOS-Bipolar devices (IGBTs). Emphasis on the issues that characterize these devices from the lower power to medium power semiconductor devices.

691 SPECIAL PROBLEMS 1-3 credits
May be taken more than once. Prerequisite: permission of department head. For a qualified graduate student. Supervised research or investigation in major field of training or experience. Credit depends upon nature and extent of project.

696 MASTER'S RESEARCH 16 credits
Prerequisite: Permission of advisor. Requires reading on a suitable topic in electrical engineering culminating in a master's thesis.

697 MASTER'S THESIS 16 credits
Prerequisite: permission of department head. Research and thesis on some suitable topic in electrical engineering.

769 FUNCTIONAL ANALYTIC METHODS IN SYSTEM THEORY 3 credits
Prerequisite: permission of instructor. A course providing necessary background in advanced mathematics and functional analysis. students preparing for graduate studies in communication, control, and mathematics.

773 TOPICS IN ELECTROMAGNETICS 3 credits
Prerequisite: 691. Introduction to advanced techniques in fields. Topics include application of Green's function techniques and related boundary value problems.

775 MODEL REDUCTION TECHNIQUES FOR CONTROL SYSTEMS 3 credits
Prerequisite: 576 or permission of the instructor. Classical, modern, and optimal techniques for constructing reduced order models of noisy, nonlinear, and infinite dimensional systems. Minimal realizations of multivariable systems are also considered.

776 ADVANCED LINEAR CONTROL SYSTEMS 3 credits
Prerequisite: 576 and a course in Real Analysis or equivalent. Covers topics related to the design of robust control systems. The synthesis of controllers which yield stable closed-loop systems will be considered. The H-infinity criterion for controller design is included. Special emphasis will be given to the robust stabilization problem and the disturbance attenuation problem.

777 ROBUST CONTROL 3 credits
Prerequisite: 636. Input/output and state-space characteristics of robust control systems, and design techniques based on the algebraic Riccati equation. Decentralized and related control design methodologies.

778 OPTIMAL CONTROL II 3 credits
Prerequisite: 617. Advanced state-feedback optimal control. Output feedback systems, including root transfer recovery, optimal observer design, reduced-order controllers, frequency weighting, and decentralized control.

780 ADAPTIVE CONTROL 3 credits
Prerequisite: 577 or permission of instructor. This course will provide the advanced graduate student with the techniques for the control of time-varying nonlinear and stochastic systems. Topics include minimum principle error control, least squares estimation, certainty equivalence adaptive control, Kalman filtering, minimum variance control, LQG control and stochastic adaptive control.

789 ADVANCED TOPICS IN CONTROL 3 credits
Prerequisite: 787. Discussions of recent advances in control systems.

794 ADVANCED SEMINAR 1-3 credits
May be taken more than once. Prerequisite: permission of department head. Advanced level course focusing on special topics. For student seeking Ph.D. in engineering.

797 PRELIMINARY RESEARCH 1-6 credits
May be repeated. Prerequisite: approval of dissertation director. Preliminary investigations leading to submission of a dissertation proposal to the Interdisciplinary Doctoral Committee.

799 DOCTORAL DISSERTATION 1-6 credits
May be repeated. Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student.

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**COMPUTER ENGINEERING 4450:**

**520 OBJECT ORIENTED DESIGN** 3 credits
Prerequisite: 3400:-239. Object-oriented design. Introduction to the object-oriented design paradigm and the design implementation with the object-oriented programming language C++.

**570 INTEGRATED SYSTEM DESIGN** 3 credits
Prerequisites: 470: 4400-4495. Prerequisites for 470. 4400-4495. Introduction to computer structures, design methods, and development tools for VLSI systems. HVAC filters and fabrication. Processing and control design. Layout methodologies and tools. Design systems.

**579 SPECIAL TOPICS: COMPUTER SCIENCE** 12 credits
May be taken more than once. Prerequisite: permission of department head. Special topics in computer engineering.

**606 COMPUTER ARCHITECTURE** 3 credits
Prerequisite: 4400-4493 or equivalent. Historical development of computer architecture design methodologies. Processor organization and design of instruction sets. Parallel processing. Control section implementation. Memory organization. System configuration.

**610 COMPUTER ARCHITECTURE** 2 credits
Prerequisite: 606 or equivalent. This course provides an introduction to parallel computer architecture and parallel processing based on a single instruction, message-passing, or shared memory.

**611 COMPUTER ALGORITHMS I** 3 credits
Prerequisites: 4400-280 and 4450-235. Organization of scientific and engineering problems for computer solutions. Analysis of error and convergence properties of algorithms.
801 RESEARCH PROJECT IN SPECIAL AREAS
Prerequisites: permission of department head and instructor. Critical and in-depth study of specific problem in educational foundations.

801 RESEARCH SEMINAR
Prerequisites: 640. May be repeated for a total of six credits. May be repeated for a total of 1-3 credits.

897 INDEPENDENT STUDY
May be repeated for a total of eight credits. Prerequisites: permission of department head and instructor.

613 ADMINISTRATION OF PUPIL SERVICES
Overview of pupil services including analysis of administration and development of each component and program and discussion of current issues and trends. Field based research required.

620 THE PRINCIPALSHIP
An examination of leadership as it relates to the development and maintenance of a school climate and culture conducive to teaching and learning.

697 INDEPENDENT STUDY
Prerequisites: permission of advisor and supervisor of the independent study. Area of study determined by student's needs. (May be repeated for a total of six credits.)

704 ADVANCED PRINCIPLES OF EDUCATIONAL ADMINISTRATION
Study of organizational and management weaknesses in elementary and secondary schools and other educational institutions.

705 DECISION MAKING IN EDUCATIONAL ADMINISTRATION
Decision making portrayed as a central function of the educational administrator with a unit presentation of the research, theory and practice of decision making.

707 THE SUPERINTENDENCY
An examination to the superintendency's role and an examination of the strategies for dealing with the major regional and functional aspects of the superintendency.

708 ADVANCED PRINCIPLES OF CURRICULUM DEVELOPMENT
A second course in curriculum development with an emphasis on the performance competencies needed to engage in curriculum planning and decision making.

710 ADVANCED SCHOOL LAW
Study of the law as it pertains to the function and role of the administrator as instructional leader, disciplinarian, building, facilities, and auxiliary services manager.

716 ADVANCED EVALUATION OF EDUCATIONAL ORGANIZATIONS
A seminar course to help educational leaders plan and assess educational programs and outcomes.

719 TOPICAL SEMINAR: EDUCATIONAL ADMINISTRATION
Prerequisites: 640. May be repeated for a total of 1-3 credits.

723 RESIDENCY SEMINAR
Prerequisites: 640. Focus on recent research in educational administration and educational administration theory.

727 PUBLIC AND MEDIA RELATIONS IN EDUCATIONAL ORGANIZATIONS
A course in educational public relations intended to help educational leaders facilitate the development of common perceptions about school issues with multiple constituencies.

735 THEORIES OF EDUCATIONAL SUPERVISION
Emphasis given to recent trends in supervisory models, staff development, and the organizational environment. An in-depth study of the role of the school principal and career as a leader.

747 SEMINAR: URBAN EDUCATIONAL ISSUES
Study of the linkages between educational organizations and their social contexts, particularly as they relate to educational change. Research project required.

746 POLICIES OF EDUCATION
Prerequisites: 640. May be repeated for a total of 1-3 credits.

796, 6 INTERNSHIP IN EDUCATIONAL ADMINISTRATION
Students are required to successfully complete a two-semester internship in a school district.

897 INDEPENDENT STUDY
Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate advanced intellectual and analytical skills in dealing with a problem in education. (May be repeated for a total of six credits.)

898 RESEARCH PROJECT
Prerequisites: permission of advisor. Critical and indepth study of specific problem in educational administration.

899 DOCTORAL DISSERTATION
Prerequisites: permission of advisor. Specific research problem that requires student to apply research skills and techniques to the problem being studied.

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**GENERAL ADMINISTRATION**

**5170: 501-523 WORKSHOP**
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

**594 EDUCATIONAL INSTITUTIONS**
Special courses designed as in-service upgrading programs, frequently provided with the support of curriculum units.

**601 PRINCIPLES OF EDUCATIONAL ADMINISTRATION**
Prerequisites: 640. An examination of educational leadership and the context in which it operates, with emphasis on the processes, tasks, roles and relationships involved. Field based research required.

**602 MANAGEMENT OF PHYSICAL RESOURCES**
A comprehensive view of the principles, practices, and new dimensions involved in the planning and management of educational facilities.

**603 MANAGEMENT OF HUMAN RESOURCES**
An orientation to the major dimensions of the personnel function.

**604 SCHOOL-COMMUNITY RELATIONS**
Prerequisites: 640. An introduction to the analysis of the social determinants of behavior, with emphasis on factors that affect the interactions between the school and the community.

**605 EVALUATION IN EDUCATIONAL ORGANIZATIONS**
Prerequisites: 640. An examination of the general concepts, models, practical applications and considerations involved in the evaluation of educational organizations.

**607 SCHOOL LAW**
Prerequisites: 640. An examination of the legal rights underlying the educational system in the United States as reflected in statutory provisions, court decisions and administrative orders. Field based research required.

**608 SCHOOL FINANCE AND ECONOMICS**
A study of financial operations of school systems, including taxes, other sources of revenue, expenditures, budgeting and effects of economic factors.

**610 PRINCIPLES OF CURRICULUM DEVELOPMENT**
Prerequisites: 640. This course is intended to help student develop the performance competencies necessary to engage in curriculum development.

**615 ADMINISTRATION IN HIGHER EDUCATION**
An in-depth study of administrative functions, knowledge and skills required, and administrative behavior. Trends in administrative theory and practice also explored.

**621 LAW AND HIGHER EDUCATION**
Prerequisites: 640. Legal aspects of higher education, sources of law and authority presented; impact on, interaction with, and implications of the administration of higher education discussed.

**625 TOPICAL SEMINAR: HIGHER EDUCATION**
May be repeated 1-3 times. A study in a variety of areas related to public and private higher education institutions, organizations. Maximum of six credits applied to degree.

**626 STUDENT SERVICES AND HIGHER EDUCATION**
Prerequisites: 640. An introduction to the sociopolitical literature concerning the impact of college on students and student development theory.
530 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING 3 credits
Study of curriculum planning at the college and university levels; factors influencing curriculum design; theories and practices of curricular change and innovation are also explored.

590 WORKSHOP 3 credits
May be repeated for a total of six credits. Emphasizing the development and demonstration of leadership behavior appropriate to the college or university setting.

600 ADVANCED ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 1 credit
May be repeated three times for a maximum of three credits. Examination of selected perspectives and topics which pertain to concern people involved.

601 INTERNSHIP IN HIGHER EDUCATION 13 credits
May be repeated for a maximum of three credits. Prerequisite: permission, corequisite: 602. In-service work experience in operations of an institution of higher education, related to student's own program of studies and professional goals.

602 INTERNSHIP IN HIGHER EDUCATION/SEMINAR 1 credit
May be repeated for a maximum of three credits. Prerequisite: permission, corequisite: 601. To be taken in conjunction with internship for synthesis of problems encountered in internship experience and to provide the opportunity to share ideas and experiences from various areas of higher education internship placement.

620 FINANCE AND HIGHER EDUCATION 3 credits
Facilitates student's understanding of how American Higher Education is financed, identifies various methodologies used, and political and economic influences and processes involved.

626 ORGANIZATION AND POLICY DEVELOPMENT IN HIGHER EDUCATION 3 credits
Familiarizes student with the planning process as related to higher education. Theoretical approaches explored, internal and external policy actors identified, and implementation issues examined.

635 INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE DEAF-LIGHT INSTRUCTOR 3 credits
Selected topics in instructional theory, techniques and strategies which are appropriate to institutional planning and development of college level courses.

645 INDEPENDENT STUDY IN HIGHER EDUCATION 13 credits
Selected topics of independent investigation in an area of higher education as determined by the advisor and student in relation to student's academic needs and career goals.

500 THE POSTSECONDARY LEARNER 3 credits
Describes characteristics of the postsecondary learner; studies issues, factors, and strategies pertaining to successful facilitation of learning in a variety of postsecondary learning environments.

505 WORKPLACE EDUCATION FOR YOUTH AND ADULTS 3 credits
History and evolution of workplace education for youth and adults. Includes study of social, economic, and political influences that stimulate growth and expansion of occupational education.

515 TRAINING IN BUSINESS AND INDUSTRY 3 credits
Examines the role and mission of the training function in the modern industrial setting. Provides a foundation for a student planning to become an industrial trainer or training supervisor of technicians and other occupational skill development levels.

530 SYSTEMATIC CURRICULUM DESIGN FOR TECHNICAL INSTRUCTION 3 credits
Procedure of breaking down an occupation to determine curriculum for laboratory and classroom, developing the content into an organized sequence of instructional units.

535 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION 3 credits
Prerequisites: 530 and 5100.00 or equivalent. Selected topics in instructional techniques appropriate to postsecondary technical education. Emphasis of instructional methods, techniques in classroom, laboratory including tests, measurements.

541 EDUCATIONAL GERONTOLOGY SEMINAR 3 credits
Designed for person preparing in field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of courses, seminars, occupational training programs and workshops for older people.

551 HOME ECONOMICS JOB TRAINING 3 credits
Prerequisite: senior standing in permission of instructor. Concept development in vocation home economics; job training; program development, operational procedures, skills, and philosophy; identification of teaching problems; job description and analysis. Individualized study guides. In-school and on-the-job observation.

598,1 WORKSHOP 13 credits
Each Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

594 EDUCATIONAL INSTITUTES 14 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

600 THE TWO-YEAR COLLEGE 3 credits
An in-depth analysis of the history, present 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
Prerequisites: 535/530 and permission of the instructor. Design of the instructional design process for technical instruction and a review of research in 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. Focus on the advisory committee, coordination functions and working with local professional associations in the community.

615 ADVANCED TECHNICAL INSTRUCTIONAL DEVELOPMENT 3 credits

620 SUPERVISION OF TECHNICAL INSTRUCTION 2 credits
Prerequisites: 430/530 and 435/535. An examination of the role of supervisor of technical instruction, related planning and work of technical instructors, professional development, as well as related leadership and management issues.

661 CURRENT ISSUES IN HIGHER EDUCATION 2 credits
May be repeated with change in topics. Examination of current problems and issues in institutions of higher education, adult education, technical institutes, community colleges, private colleges, universities, graduate and professional education.

680 INTERNSHIP IN TECHNICAL EDUCATION 3 credits
Prerequisites: advisor and supervisor of completion of all required technical education coursework. Teaching or curricular development under supervision from the University and the learning organization. Includes a seminar and portfolio development.

696 FIELD EXPERIENCE: MASTER'S 16 credits
(30-180 field hours)
Prerequisites: permission of advisor and supervisor of field experience. On-the-job experience related to student's program of studies. Credit/non-credit.

697 INDEPENDENT STUDY 12 credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervisor of independent study. Area of study determined by student's need.

798 MASTER'S PROJECT 24 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must demonstrate proficiency and analytical skills in dealing with a problem in technical and vocational education.

799 MASTER'S THESIS 46 credits
Prerequisites: permission of advisor. In-depth study of research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in vocational education.

CURRICULUM AND INSTRUCTIONAL STUDIES 5500:

522 DEVELOPMENTAL READING IN THE CONTENT AREAS—ELEMENTARY 3 credits
Prerequisites: 5200.037 or permission of instructor. Nature of reading skills relating to content subjects. Methods and materials needed to promote reading achievement in content subjects by the elementary classroom teacher.

540 PRINCIPLES OF BILINGUAL/MULTICULTURAL EDUCATION 3 credits
An introduction to the theoretical, cultural, sociological bases of bilingual/multicultural education. Legalization, court decisions, program implementation included.

541 TEACHING READING AND LANGUAGE ARTS TO BILINGUAL STUDENTS 4 credits
Prerequisite: permission of instructor. Course applies methodologies for teaching reading, language arts in the bilingual/multicultural classroom. The bilingual student's native language and culture are stressed.

542 TEACHING MATHMATICS, SOCIAL STUDIES AND SCIENCE TO BILINGUAL STUDENTS 3 credits
Prerequisites: elementary education majors, 5650.233, 338, 338, secondary education majors, 5650.311 at least, social studies in the bilingual/multicultural classroom. Course applies methodologies teaching mathematics, social studies, science in the bilingual/multicultural classroom. The bilingual student's native language and culture are stressed.

543 TECHNIQUES FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN THE BILINGUAL CLASSROOM 4 credits
Prerequisite: permission of instructor. Course includes teaching language skills to Limited English Proficient students in grades K-12. Administration of language assessment tests, selection and evaluation of materials.

565 VOCATIONAL BUSINESS EDUCATION 3 credits
Prerequisite: permission of instructor. Course emphasizes principles of program construction, organization, implementation, evaluation, improvement, and development of program guides for both intertwine and cooperative vocational business education.

570 MULTICULTURAL EDUCATION IN UNITED STATES 3 credits
Inquiry into multicultural dimensions of American education. Comparisons of urban, suburban and rural educational settings with reference to sociocultural differences.

571 CHARACTERISTICS OF CULTURALLY DIVERSE POPULATIONS 3 credits
Course examines characteristics of culturally diverse populations with focus on youth in low-income areas. Emphasis on cultural, social, economic and educational considerations and their implications.

572 PREPARATION FOR TEACHING CULTURALLY DIVERSE POPULATIONS 3 credits
Course examines preparation of teaching, instructional materials and methods for diverse populations. Special emphasis is on the knowledge required to work effectively with a culturally diverse student population.

575 MICROCOMPUTER APPLICATIONS FOR ELEMENTARY TEACHERS 3 credits
Prerequisites: 5100.520 or permission of instructor. Focus on developing student's competence in the use of elementary education computer technology to enhance both the teacher's personal and professional productivity.

576 MICROCOMPUTER APPLICATIONS FOR SECONDARY TEACHERS 3 credits
Prerequisites: 5100.530 or permission of instructor. Develops students competence in the use of secondary education computer technology to enhance both the teacher's personal and professional productivity.

590 WORKSHOP 13 credits
Workshop for educators to improve teaching skills in a specific area of the curriculum.

594 EDUCATIONAL INSTITUTES 14 credits
Special courses designed as in-service upgrading programs, frequently provided with support of national foundations.

600 CONCEPTS OF CURRICULUM AND INSTRUCTION 3 credits
A study of the underlying research and theory of curriculum and instruction with special attention to educational decision in the classroom setting.

605 SEMINAR IN TRENDS AND ISSUES IN CURRICULUM AND INSTRUCTION 3 credits
Prerequisite: 5200. A study of recent research and theory in curriculum and instruction with special attention to applications to educational decision making.

615 EDUCATION AND THE YOUNG CHILD 3 credits
Prerequisites: 430/530. Focus on educational settings of younger children from birth through five years of age.

616 PHILOSOPHY AND ORGANIZATION OF MIDDLE SCHOOLS 3 credits
Philosophy, theory, research, and exemplary organizational, assessment, and evaluation components of middle level education.

646 MIDDLE SCHOOL CURRICULUM AND INSTRUCTION 3 credits
Course examines teaching, and exemplary practices focusing on middle school curriculum and instruction.

671 ELEMENTARY AND SECONDARY LICENSURE SEMINAR 3 credits
This course should be taken at the beginning of the Master of Education as a Licensure program as an introduction to curriculum and the pragmatics of teaching.
108 The University of Akron

619 ADVANCED INSTRUCTIONAL PRACTICES
Praerequisite: 617. 3 credits

620 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION
Praerequisite: 617. 9 credits

621 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION
Praerequisite: 617. 3 credits

622 LITERATURE FOR YOUNG CHILDREN
Praerequisite: 550, 339. 3 credits

623 MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION
Praerequisite: 550-339. 3 credits

624 TEACHING READING TO CULTURALLY DIVERSE LEARNERS
Praerequisite: 617. 3 credits

625 TRENDS IN READING INSTRUCTION
Praerequisite: 335 or permission of instructor. 3 credits

626 READING DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS AND SUPPORT PERSONNEL
Praerequisite: 600-600 or permission of instructor. 3 credits

627 LANGUAGES AND THEIR RELATIONSHIP TO READING IN THE ELEMENTARY SCHOOL
Praerequisite: 550, 339. 3 credits

628 READING PROGRAMS IN SECONDARY SCHOOLS
3 credits

629 SEMINAR IN FOREIGN LANGUAGES
Praerequisite: 550-339 or permission of instructor. 3 credits

630 TYPICAL SEMINAR IN RESEARCH AND THEORY IN FOREIGN LANGUAGE EDUCATION
Praerequisite: 550-339. 3 credits

631 THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS
2 credits

632 SEMINAR IN CURRICULUM AND INSTRUCTION IN ELEMENTARY SCHOOL MATHEMATICS
3 credits

633 ACTIVITIES TO INDIVIDUALIZE SOCIAL STUDIES
Praerequisite: 339. 3 credits

634 CONCEPTS AND CURRICULUM DESIGNS IN ECONOMIC EDUCATION
Economic education materials and activities to develop an individualized, student-motivated social studies program. 3 credits

635 FIELD EXPERIENCE: MASTER'S
Praerequisite: 3 credit each. 16 credits

636 MASTER'S PROJECTS
Praerequisite: permission of advisor and department chair. 3 credits

637 INDEPENDENT STUDY
Praerequisite: permission of advisor and department chair. 3 credits

638 FIELDWORK: 12 WORKSHOP
12 credits

639 DIAGNOSIS AND CORRECTION OF READING PROBLEMS
5 credits

640 CLINICAL PRACTICES IN READING
Praerequisite: 720. Nature and etiology of reading difficulties experienced by selected children. Supervised practices and independent work with children in conjunction with staff from other disciplines. 5 credits

641 DIAGNOSIS AND TREATMENT OF PERFORMANCE DIFFICULTIES IN ELEMENTARY SCHOOL MATHEMATICS
3 credits

642 CURRICULUM AND INSTRUCTIONAL STUDIES
3 credits

643 PROFESSIONAL SEMINAR IN CURRICULUM AND INSTRUCTIONAL STUDIES
3 credits

644 ADVANCED STUDY AND RESEARCH IN MATHEMATICS INSTRUCTION
Praerequisite: permission of instructor. 3 credits

645 PHYSICAL EDUCATION
5550:

536 FOUNDATIONS AND ELEMENTS OF ADAPTED PHYSICAL EDUCATION
Praerequisite: 530. 3 credits

541 ADVANCED ATHLETIC INJURY MANAGEMENT
Praerequisites: 530, 590, 2019, 5550, 245. 4 credits

542 THERAPEUTIC MODALITIES AND EQUIPMENT IN SPORTS MEDICINE
Praerequisite: 530, 2019, 5550. 3 credits

543 EDUCATIONAL INSTITUTES AND FOUNDATIONS
14 credits

544 SUPERVISION AND ADMINISTRATION OF PHYSICAL EDUCATION
3 credits

545 PHYSICAL EDUCATION AND HEALTH EDUCATION, RECREATION AND DANCE
3 credits

546 CURRICULAR ISSUES IN PHYSICAL EDUCATION
3 credits

547 MOTOR BEHAVIOR
3 credits

548 MOTOR DEVELOPMENT AND CURRICULAR ENVIRONMENTS
3 credits

549 PHYSICAL EDUCATION AND HEALTH EDUCATION: INSTRUCTIONAL STRATEGIES
3 credits

550 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE
3 credits

551 STATISTICS: QUANTITATIVE AND QUALITATIVE METHODS
3 credits

552 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY
3 credits

553 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION
2 credits

554 FIELD EXPERIENCE: MASTER'S
15 credits

555 MASTER'S PROBLEM
Praerequisite: permission of instructor. 4 credits

556 MASTER'S DISSERTATION
Praerequisite: permission of advisor and department chair. 12 credits

PHYSICAL EDUCATION
5550:

536 FOUNDATIONS AND ELEMENTS OF ADAPTED PHYSICAL EDUCATION
Praerequisite: 530. 3 credits

541 ADVANCED ATHLETIC INJURY MANAGEMENT
Praerequisites: 530, 590, 2019, 5550, 245. 4 credits

542 THERAPEUTIC MODALITIES AND EQUIPMENT IN SPORTS MEDICINE
Praerequisite: 530, 2019, 5550. 3 credits

543 EDUCATIONAL INSTITUTES AND FOUNDATIONS
14 credits

544 SUPERVISION AND ADMINISTRATION OF PHYSICAL EDUCATION
3 credits

545 PHYSICAL EDUCATION AND HEALTH EDUCATION, RECREATION AND DANCE
3 credits

546 CURRICULAR ISSUES IN PHYSICAL EDUCATION
3 credits

547 MOTOR BEHAVIOR
3 credits

548 MOTOR DEVELOPMENT AND CURRICULAR ENVIRONMENTS
3 credits

549 PHYSICAL EDUCATION AND HEALTH EDUCATION: INSTRUCTIONAL STRATEGIES
3 credits

550 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE
3 credits

551 STATISTICS: QUANTITATIVE AND QUALITATIVE METHODS
3 credits

552 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY
3 credits

553 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION
2 credits

554 FIELD EXPERIENCE: MASTER'S
15 credits

555 MASTER'S PROBLEM
Praerequisite: permission of instructor. 4 credits

556 MASTER'S DISSERTATION
Praerequisite: permission of advisor and department chair. 12 credits
OUTDOOR EDUCATION
5560:

556 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM 4 credits
Provides knowledge, skills and techniques useful in application of outdoor education to school curricula.

557 RESOURCES AND RESOURCE MANAGEMENT FOR THE TEACHING OF OUTDOOR EDUCATION 4 credits
Resources and instructional techniques which are applicable to outdoor education and include study of methods and designs, unique to the process of teaching.

556 OUTDOOR PURSUITS
Involvement and participation in experiential outdoors experiences. 4 credits

590 WORKSHOP: OUTDOOR EDUCATION
Prerequisite: Outdoor Education; techniques that can be applied by teachers in working with students in the field. 4 credits

698 EDUCATIONAL INSTITUTES: OUTDOOR EDUCATION
Prerequisite: Outdoor Education; practical experience with current research and curricular practices involving realistic resource persons in outdoor education. 14 credits

697 OUTDOOR EDUCATION: RURAL INFLUENCES
Prerequisite: Outdoor Education; utilization of resources of rural area as a learning teaching environment. Content and methodology appropriate for teaching school-age child in rural setting. 2 credits

600 OUTDOOR EDUCATION: THEORIES AND TECHNIQUES
Prerequisite: Outdoor Education; may be repeated with change in topic. 2 credits

PRACTICUM IN OUTDOOR EDUCATION
Prerequisite: Outdoor Education; field experience. 1-3 credits

FIELD EXPERIENCE: MASTER’S
Prerequisite: permission of adviser. Participation and documentation of practical professional experience related to outdoor education. 1-15 credits

INDEPENDENT STUDY
Prerequisite: permission of advisor. Indepth analysis of current practices or problems related to outdoor education. 1-7 credits

MASTER’S PROGRAM
Prerequisite: permission of advisor. Intensive research study related to a problem in outdoor education or related discipline. 2-4 credits

MASTER’S THESIS
An original composition demonstrating independent scholarship in a discipline related to outdoor education. 4-6 credits

HEALTH EDUCATION
5570:

521 COMPREHENSIVE SCHOOL HEALTH
Prerequisite: admittance to Graduate School. This course explores and presents comprehensive school health programs. 4 credits

EDUCATIONAL GUIDANCE AND COUNSELING
5600:

560 COUNSELING PROBLEMS RELATED TO LIFE-THREATENING ILLNESS AND DEATH 3 credits
Prerequisite: permission. Consideration of the global issues, current research, coping behaviors, support systems and family and individual needs in regard to life-threatening situations.

590, 12 WORKSHOP
Prerequisite: enrollment in a service and/or program. The major portion of instruction is spent in group counseling and office supervision. 1-12 credits

593 COUNSELING INSTITUTE
Prerequisite: enrollment in a counseling and office supervision. 1-14 credits

600 SEMINAR IN COUNSELING
Prerequisite: permission. Counseling of students with emotional and personal problems. 1-4 credits

602 INTRODUCTION TO COUNSELING
Understanding guidance and counseling principles including organization, operation and evaluation of guidance programs designed for non-counseling majors. 2 credits

610 COUNSELING SKILLS FOR TEACHERS
Prerequisite: permission. Teaching and counseling techniques that can be applied by teachers in working with students, parents, and colleagues. 3 credits

620 TOPICAL SEMINAR
Prerequisite: permission. Seminar on a topic of current interest in the profession. 1-4 credits

631 ELEMENTARY SCHOOL GUIDANCE
Prerequisite: permission. Counseling in the elementary school. 3 credits

632 SECONDARY SCHOOL GUIDANCE
Introductory course examines guidance and counseling techniques. 3 credits

635 COMMUNITY COUNSELING
Overview of community and college counseling services, their interaction, philosophy, organization and administration. 3 credits

643 COUNSELING THEORY AND PHILOSOPHY 3 credits
Prerequisite: permission. Examination of major counseling systems including client-centered, experiential and existentstial theories. Philosophical and theoretical dimension inherent. 3 credits

647 TESTS AND APPRAISAL IN COUNSELING 3 credits
Prerequisite: permission. Study of the nature of tests and appraisal in counseling including reliability, validity, test construction and selection, administration, scoring, and interpretation of selected measures. 3 credits

648 MULTICULTURAL COUNSELING
Prerequisite: permission. An examination of multicultural counseling theory and the counseling process. 3 credits

652 CAREER DEVELOPMENT AND COUNSELING ACROSS THE LIFE SPAN
Prerequisite: permission. Overview of career development and choice with the lifespan. Personal, family and societal characteristics that affect career choice, and implementation are discussed. 3 credits

653 INDIVIDUAL AND FAMILY COUNSELING ACROSS THE LIFE SPAN
Prerequisite: permission. Study of the nature of individual and family counseling. Emphasis will be placed on understanding the relationship between the individual and the family. 3 credits

654 COUNSELING AND PERSONNEL SERVICES IN HIGHER EDUCATION
Prerequisite: permission. Counseling and Personnel Counseling as services related to psychological needs and problems of the college student. 3 credits

655 TECHNIQUES OF COUNSELING
Prerequisite: permission. Techniques of counseling as related to psychological needs and problems of the college student. 3 credits

656 MARRIAGE AND FAMILY THERAPY: THEORY AND TECHNIQUES
Prerequisite: permission. An overview of the theories and techniques of marital and family therapies, including emphasis on the history, terminology and contributions of significant persons in the field. 3 credits

657 CONSULTANT COUNSELING
Prerequisite: permission. Specialized training for the consultant counseling. 3 credits

658 SYSTEMS THEORY IN COUNSELING
Prerequisite: permission. Study of the effects of family and group dynamics on the counseling process. 3 credits

660 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES
Prerequisite: permission. Development of comprehensive administrative guidance program. 3 credits

663 SEMINAR IN SCHOOL COUNSELING
Prerequisite: permission. A study of specific guidance techniques and materials useful to counselors working with the secondary school student, teacher and parents. 3 credits

665 SEMINAR: COUNSELING PRACTICE
Prerequisite: permission. Study of the theories of counseling and related practice. 3 credits

666 MARRITAL THERAPY
Prerequisite: permission. In-depth study of marital relationships. 3 credits

669 SYSTEMS THEORY IN FAMILY THERAPY
Prerequisite: permission. In-depth study of systems theory in family therapy. Major assumptions of systems theory will be examined and implications for intervention will be explored. 3 credits

670 ADDICTION COUNSELING I: THEORY AND PRACTICE
Prerequisite: permission. A graduate course in related to addiction counseling. 3 credits

675 PRACTICUM IN COUNSELING I
Prerequisite: permission. Supervised counseling experience with individuals and small groups. (Credit/noncredit) 5 credits

676 PRACTICUM IN COUNSELING II
Prerequisite: permission. Supervised counseling experience with individuals and small groups. (Credit/noncredit) 2-6 credits

685 INTERNSHIP
Prerequisite: permission. Field practicum experience in counseling. 1-4 credits

695 FIELD EXPERIENCE: MASTER’S
Prerequisite: permission. Field experience. 1-15 credits

697 INDEPENDENT STUDY
Prerequisite: permission. Independent study. 1-7 credits

699 INDEPENDENT STUDY: ADVANCED COUNSELING PRACTICE
Prerequisite: permission. Independent study. 1-7 credits

702 ADVANCED COUNSELING PRACTICUM
Prerequisite: permission. Advanced practicum. 1-4 credits

703 SUPERVISION IN COUNSELING PSYCHOLOGY I
Prerequisite: permission. Advanced practicum experience in counseling psychology. 3 credits

704 SUPERVISION IN COUNSELING PSYCHOLOGY II
Prerequisite: permission. Advanced practicum experience in counseling psychology. 3 credits

706 ADVANCED COUNSELING PRACTICUM
Prerequisite: permission. Advanced practicum. 2-4 credits

708 THEORIES OF COUNSELING AND PSYCHOTHERAPY
Prerequisite: permission. Theories of counseling and psychotherapy. 4 credits

710 VOCATIONAL BEHAVIOR
Prerequisite: permission. Study of vocational behavior. 4 credits

712 PRINCIPLES AND PRACTICES OF INFLUENCES IN COUNSELING
Prerequisite: permission. An examination of the principles and practices of counseling. 3 credits

731 PROFESSIONAL ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY
Prerequisite: permission. An examination of the principles and practices of counseling. 3 credits
SPECIAL EDUCATION 5610:

540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS 4 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification, and developmental characteristics of individuals with mental retardation and developmental disabilities. This course will include individuals classified at all levels of mental retardation, mild, moderate, severe, and profound.

541 DEVELOPMENTAL CHARACTERISTICS OF THE SPECIFIC LEARNING DISABILITIES 3 credits
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of specific learning disabilities.

542 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS 3 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of intellectually gifted individuals.

545 DEVELOPMENTAL CHARACTERISTICS OF ORTHOPEDICALLY HANDICAPPED INDIVIDUALS 3 credits
Prerequisite: 440/540. A survey of etiology, diagnosis, classification and developmental characteristics of orthopedically handicapped individuals.

546 DEVELOPMENTAL CHARACTERISTICS OF THE SEVERE BEHAVIORAL HANDICAPPED 3 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of the severely behaviorally handicapped individuals.

547 DEVELOPMENTAL CHARACTERISTICS OF INDIVIDUALS WITH MILD/MODERATE EDUCATIONAL NEEDS 4 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of individuals with mild/moderate educational needs.

548 DEVELOPMENTAL CHARACTERISTICS OF INDIVIDUALS WITH MODERATE/INTENSIVE EDUCATIONAL NEEDS 4 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of individuals with moderate/intensive educational needs.

550 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD 3 credits
Prerequisite: Admission to a Special Education Teacher Preparation Program, 440/540, and/or permission of instructor. Developmental patterns of young children with special needs and developmentally exceptional/appropriate practices with respect to programming and adaptations.

551 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE I 3 credits
Prerequisite: Admission to a Special Education Teacher Preparation Program, 440/540, and/or permission of instructor. Educational implications regarding assessment, teaching strategies, and appropriate practices based upon psychological principles for individuals with moderate/intensive educational needs.

552 SPECIAL EDUCATION PROGRAMMING: SECONDARY/VOCATIONAL 3 credits
Prerequisite: 440/540. A study of diagnostic development patterns to accommodate development patterns of secondary-level exceptional children.

553 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE I 4 credits
Prerequisite: Admission to a Special Education Teacher Preparation Program, 440/540, and/or permission of instructor. Educational implications regarding assessment, teaching strategies, and appropriate practices based upon psychological principles for individuals with moderate/intensive educational needs.

554 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE II 4 credits
Prerequisite: 440/540. A study of diagnostic development patterns to accommodate development patterns of secondary-level exceptional children.

555 EDUCATIONAL ADJUSTMENT FOR INTELLECTUALLY GIFTED INDIVIDUALS 3 credits
Prerequisite: 440/540. A study of programs, services and educational experiences designed to accommodate the intellectual potential of gifted individuals.

556 SPECIAL EDUCATION PROGRAMMING: SEVERE HANDICAPPED 3 credits
Prerequisite: 440/540. A study of assessment and intervention strategies for exceptional children. Focus is on developing a comprehensive educational program which will facilitate optimum functioning and independence.

557 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE II 2 credits
Prerequisite: Admission to a Special Education Teacher Preparation Program, 440/540, and/or permission of instructor. Special educational implications regarding assessment, teaching strategies, and appropriate practices necessary to meet the needs of school age students with mild/moderate educational needs.

558 INTERDISCIPLINARY PROGRAMMING IN SPECIAL EDUCATION 3 credits
Prerequisite: Permission of instructor. A study of interdisciplinary services, educational techniques designed to accommodate the needs of MPSR 45, moderately handicapped and emotionally handicapped individuals.

559 COLLABORATION AND CONSULTATION IN SCHOOLS AND COMMUNITY 3 credits
Prerequisite: 440/540 and 446/546. A study of consultation with exceptional individuals and other professionals within the school/community settings.

560 FAMILY DYNAMICS AND COMMUNICATION IN THE EDUCATIONAL PROCESS 3 credits
Prerequisites: 441/541, 446/546 or 448/548. A study of family theory and structure along with beginning techniques for working with families of students with exceptionalities, educational and community settings.

561 TECHNOLOGY AND MATERIALS APPLICATION IN SPECIAL EDUCATION 3 credits
Prerequisites: 5100/6100 and permission of instructor. Special education consultation in the application and programming in special education: operation and use of unique or visual tables for handicapped and/or adaptive use of traditional equipment; overview of curricular materials designed for exceptional learners.

562 EDUCATING EXCEPTIONAL CHILDREN IN THE REGULAR CLASSROOM 3 credits
Prerequisites: 440/540. A study of the skills required for successful collaboration between regular and special education teachers.

563 ASSESSMENT IN SPECIAL EDUCATION 3 credits
Prerequisites: 440/540. A study of assessment of exceptional children and youth in a variety of educational environments.

564 NEUROMOTOR ASPECTS OF PHYSICAL DISABILITIES 3 credits
Prerequisites: 450/550 or 457/557. A study of the principles and implications of motor disabilities and their impact on students with special needs.

565 RECREATIONAL PROGRAMS FOR EXCEPTIONAL INDIVIDUALS 3 credits
Prerequisite: 440/540. An overview of recreation for exceptional individuals and the role of recreation in the development and education of special needs individuals.

566 MANAGEMENT STRATEGIES IN SPECIAL EDUCATION 3 credits
Prerequisites: 450/550 and 451/551. A study of the management and organization of special education programs and services for exceptional learners.

567 CLINICAL PRACTICUM IN SPECIAL EDUCATION 3 credits
Prerequisites: 450/550, 451/551, and permission of instructor. Clinical observation and application of diagnostic techniques in special education.

568 BEHAVIORAL MANAGEMENT 3 credits
Prerequisites: 450/550 and 451/551. A study of the principles of behavior modification and the development of effective educational programs for exceptional learners.

569 SEMINAR INVITATIONAL STUDIES IN SPECIAL EDUCATION 12 credits
Prerequisites: 540/640, 541/641, 542/642, 543/643, 544/644, 545/645, 546/646, 547/647, 548/648, 549/649, and 550/650. Special study in special education, including individual programs designed to provide practice in diagnostic and instructional intervention with gifted students.

570 NEUROMOTOR ASPECTS OF PHYSICAL DISABILITIES 3 credits
Prerequisites: 450/550 or 457/557. A study of the principles and implications of motor disabilities and their impact on students with special needs.

571 RECREATIONAL PROGRAMS FOR EXCEPTIONAL INDIVIDUALS 3 credits
Prerequisite: 440/540. An overview of recreation for exceptional individuals and the role of recreation in the development and education of special needs individuals.

572 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS 3 credits
Prerequisite: 440/540. A study of the etiology, diagnosis, classification, and developmental characteristics of individuals with mental retardation and developmental disabilities. This course will include individuals classified at all levels of mental retardation, mild, moderate, severe, and profound.

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Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of orthopedically handicapped individuals.

576 DEVELOPMENTAL CHARACTERISTICS OF THE SEVERE BEHAVIORAL HANDICAPPED 3 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of the severely behaviorally handicapped individuals.

577 DEVELOPMENTAL CHARACTERISTICS OF INDIVIDUALS WITH MILD/MODERATE EDUCATIONAL NEEDS 4 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of individuals with mild/moderate educational needs.

578 DEVELOPMENTAL CHARACTERISTICS OF INDIVIDUALS WITH MODERATE/INTENSIVE EDUCATIONAL NEEDS 4 credits
Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of individuals with moderate/intensive educational needs.
Courses of Instruction

602 SUPERVISION OF INSTRUCTION 3 credits
Prerequisite: certification in an area of special education. Study of administration and supervisory practices unique to special education classes and services.

604 COLLABORATION AND CONSULTATION SKILLS FOR SPECIAL EDUCATORS 3 credits
Prerequisite: permission to graduate program in special education or permission of the instructor. Advanced consideration of the roles and responsibilities of parents, professionals and individuals with disabilities in the development and implementation of educational interventions and related issues.

605 INCLUSION MODELS AND STRATEGIES 3 credits
Prerequisite: admission to graduate program in special education. History, theory, philosophy, legislative mandates, models, strategies, curriculum modifications, methods/materials and adaptations which support the inclusion of students with disabilities. Emphasis on collaboration and learning.

606 RESEARCH APPLICATIONS IN SPECIAL EDUCATION 3 credits
Prerequisites: admission to graduate program in special education and 5000-640. An examination of qualitative and qualitative research methodology and its application to the field of special education. Applied research is an essential component of the course.

611 SEMINAR: LEGAL ISSUES IN SPECIAL EDUCATION 3 credits
Prerequisite: admission to graduate program in special education and 5170-720 or permission of instructor. A culminating seminar for graduate students in special education designed to study, examine, and affect upon the legal aspects of historical and current trends, issues, and practices.

612 SEMINAR: SOCIAL/ETHICAL ISSUES IN SPECIAL EDUCATION 3 credits
Prerequisite: admission to graduate program in special education, 611, or permission of the instructor. A culminating seminar for graduate students in special education designed to study, examine, and affect upon the social and ethical aspects of historical and current trends, issues, and practices.

697 INDEPENDENT STUDY 3 credits
Prerequisite: permission of instructor. Through study, analysis, and reporting in depth of an educational problem, field projects in special areas, synthesis of existing knowledge in relationship to specific topic.

SPECIAL EDUCATIONAL PROGRAMS

5800:

590 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES 3 credits
Individual work under staff guidance on curricular problems; utilization of community resources; planning of core curriculum units.

591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE 3 credits
Individual work under staff guidance on curricular problems; utilization of community resources; planning of core curriculum units.

592 WORKSHOP IN READING 3 credits
Individual work under staff guidance on curricular problems; utilization of community resources; planning of core curriculum units.

593 WORKSHOP ON EXCEPTIONAL CHILDREN 3 credits
Individual work under staff guidance on curricular problems; utilization of community resources; planning of curricular units.

594 INTERNATIONAL SCHOOL STUDY 4 credits
On-the-scene study of education in foreign countries, usually by concentrating on the study of schools in more restricted geographical areas.

School Psychology

5620:

590 WORKSHOP 1.2 credits
Prerequisite: permission of instructor. Open-ended experience provided periodically as needed and as resources become available.

591 WORKSHOP 1.3 credits each
Prerequisite: permission of instructor. Open-ended experience provided periodically as needed and 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. Seminar on role and function of school psychologist. The course, tailored to meet individual needs of trainees. A consideration of professional standards of school psychology practice.

601 COGNITIVE FUNCTION MODELS FOR PREScriptive EDUCATIONAL PLANNING 3 credits
Prerequisite: permission of instructor. Consideration of cognitive development theories and their application for educational programming.

602 BEHAVIORAL ASSESSMENT 3 credits
Prerequisite: permission of instructor. Overview of behavioral theory and its application focusing upon the role of the school psychologist as an agent of behavioral change.

603 CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY 3 credits
Prerequisite: permission of instructor. Consideration of consultant roles in the practice of school psychology as related to consultant process and with school and agency personnel, parents, and children.

510 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS 4 credits
Prerequisites: permission of instructor. Clinical study and application of current assessment approaches applicable in assessment of children's learning problems.

511 PRACTICUM IN SCHOOL PSYCHOLOGY 4 credits
Prerequisite: permission of instructor. Laboratory experience in psycho-educational study of individual children who have learning problems in school. (Repeat requirement)

530 INTERNATIONAL SCHOOL PSYCHOLOGY: FALL/Spring 3 credits each
Prerequisite: permission of instructor. Field work assignment under supervision of a qualified school psychologist for an academic year structured according to provisions of the 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 with emphasis on field-based concerns of a practicing school psychologist.
ACCOUNTANCY
6200:
520 ADVANCED ACCOUNTING  3 credits
Prerequisite: 6200:321 and 322. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, and non-profit entities and consolidating statements.

530 TAXATION  3 credits
Prerequisite: 320 or 620. Federal tax law related to individuals. Master of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.

531 TAXATION II  3 credits
Prerequisite: 430/530 or permission. Federal income tax law related to partnerships, corporations and trusts, and estates, also includes an overview of federal estate and gift tax law.

540 AUDITING  3 credits
Prerequisite: 6200:255, 321, and 6500:221. 6200:430 and 454 must be taken prior to or concurrently. Examinations auditing standards and procedures used by independent auditors in determining whether or not a firm has fairly presented its financial position.

570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING  3 credits
Prerequisite: 320 or 661. Theory and procedures involved in the preparation, budgeting, governmental control, and audit of various accounting systems to governmental units, educational, medical, and other nonprofit institutions.

580 ACCOUNTING PROBLEMS  2 credits
Prerequisite: 322. Independent research on advanced accounting problems in student's specific area of interest.

588 CPA PROBLEMS: AUDITING  2 credits
Prerequisite: 440/540 or permission of instructor. Preparation for auditing section of CPA examination, focusing on auditing principles, standards and ethics and situations encountered by independent auditors.

589 CPA PROBLEMS: THEORY  2 credits
Prerequisite: permission of instructor. Preparation for theory section of CPA examination focusing on current developments and use of basic accounting theory to solve advanced accounting problems.

590 SPECIAL TOPICS IN ACCOUNTING  1-3 credits
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.

591 WORKSHOP IN ACCOUNTING  1 credit
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 on department.

601 FINANCIAL ACCOUNTING  3 credits
Introductory course for students with no accounting background. Examines accounting principles as applied to financial problems of firms.

603 BUSINESS SYSTEMS WITH PROCESSING APPLICATIONS  3 credits
Prerequisite: 601. Introduction to basic concepts in concepts in computer technology, systems in system development and topic in designing accounting systems by using a business-oriented language or related software.

610 ACCOUNTING MANAGEMENT AND CONTROL  3 credits
Prerequisite: 601 or equivalent. Investigation of role of accounting in management tool in areas of production, marketing, internal control and capital budgeting with focus on management planning.

621 CORPORATE ACCOUNTING AND FINANCIAL REPORTING I  3 credits
Prerequisite: 601. An introduction to generally accepted accounting principles in theory and application, as well as financial statement preparation.

622 CORPORATE ACCOUNTING AND FINANCIAL REPORTING II  3 credits
Prerequisite: 621. A continuation of 6200:621 which examines generally accepted accounting principles in theory and practice, as well as financial statement preparation.

627 SURVEY OF FEDERAL TAXATION  3 credits
Prerequisite: 6200:621 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.

628 BASIC TAX RESEARCH  1 credit
Prerequisite: completion of M.Tax foundation courses. Designed to develop basic research competence involving federal income, estate, and gift tax laws.

631 CORPORATE TAXATION I  3 credits
Prerequisite: completion of M.Tax foundation courses. Detailed examination of tax problems of corporations and their shareholders. Formation, distribution, redemption, liquidation, and penalty taxes covered.

632 TAXATION OF TRANSACTIONS IN PROPERTY  3 credits
Prerequisite: completion of M.Tax foundation courses. Explores federal tax implications of gains and losses derived from sales, exchanges, and other dispositions of property.

633 ESTATE AND GIFT TAXATION  3 credits
Prerequisite: completion of M.Tax foundation courses. Analyzes provisions of federal estate and gift tax laws and tax consequences of testamentary and inter vivos transfers.

637 ADVANCED ACCOUNTING THEORY  3 credits
Prerequisite: 6200:621 and 622 or equivalent. Examination of accounting concepts and standards through critical analysis of articles on current trends in profession. Discussion and outside research stressed.

640 ADVANCED AUDITING  3 credits
Prerequisite: 440/540. Conceptual foundations and current research on professional and internal auditing. Includes government regulation and litigation, statistics, computer systems as well as current and prospective developments in auditing.

641 TAXATION OF PARTNERSHIPS  3 credits
Prerequisite: completion of M.Tax foundation courses. Examines extensively provisions of subchapter K and S of Internal Revenue Code and uses of partnerships for tax planning.

642 CORPORATE TAXATION II  3 credits
Prerequisite: 631. Examination of federal tax consequences of corporate reorganizations.

643 ACCOUNTING PROBLEMS  2 credits
Prerequisite: completion of M.Tax foundation courses. Intensive study of tax provisions concerning use of consolidated returns.

644 INCOME TAXATION OF DECEDENTS, ESTATES, AND TRUSTS  2 credits
Prerequisite: 631. An in-depth examination of the decedent's last income tax return along with the analysis of income taxation of trusts and estates and the creators, fiduciaries and beneficiaries.

645 ADVANCED INDIVIDUAL TAXATION  3 credits
Prerequisite: 430/530. In-depth study of some of the more involved areas of individual income taxation.

646 CONSOLIDATED TAX RETURNS  2 credits
Prerequisite: completion of M.Tax foundation courses. Intensive study of tax provisions concerning use of consolidated returns.

647 QUALIFIED PENSIONS AND PROFIT SHARING  3 credits
Prerequisite: completion of M.Tax foundation courses. Nature, purpose and operation of various forms of deferred compensation examined with much emphasis on pension and profit-sharing plans.

648 TAX PRACTICE AND PROCEDURE  2 credits
Prerequisite: completion of M.Tax foundation courses. In-depth study of administration and procedures of Internal Revenue Service and responsibilities of tax practitioners.

649 STATE AND LOCAL TAXATION  2 credits
Prerequisite: 631. Examines common types of taxes imposed by state and local governments and includes taxation of multistate businesses.

650 ESTATE PLANNING  2 credits
Prerequisite: 643. Considers entire process of planning the estate with due regard for disposition of property, tax minimization, liquidity requirements and administrative expenses.

651 UNITED STATES TAXATION AND TRANSPORTATIONAL OPERATIONS  2 credits
Prerequisite: completion of M.Tax foundation courses. Examines United States taxation of foreign income of domestic corporations, citizens and residents, as well as United States income of nonresident aliens and foreign corporations.

652 TAX-EXEMPT ORGANIZATIONS  2 credits
Prerequisite: completion of M.Tax foundation courses. Analysis of tax aspects of tax-exempt organizations, including nature and limitations of its exemption.

653 BUSINESS PLANNING  2 credits
Prerequisite: 643. Uses cases depicting complex problems to permit student to integrate knowledge of taxation.

654 INDEPENDENT STUDY IN TAXATION  1-3 credits
Prerequisite: permission of instructor for intensive study of particular topic or limited number of topics not otherwise offered in curriculum. (May be repeated for a total of six credits)

655 ADVANCED INFORMATION SYSTEMS  3 credits
Prerequisite: 630 or equivalent. Advanced study of information systems and techniques, with applications to accounting, marketing, and financial systems.

656 NON-QUALIFIED EXECUTIVE COMPENSATION  2 credits
Prerequisite: 630. Various nonqualified executive compensation items are analyzed. The effects to both the recipient and payor are determined and discussed.

657 ADVANCED TAX RESEARCH AND POLICY  3 credits
Prerequisite: 626 and completion of four other tax courses in Phase II. Extensive research involving federal, estate, trust, and gift tax laws as well.

658 RESEARCH AND QUANTITATIVE METHODS IN ACCOUNTING  3 credits
Prerequisites: 6200:601, 6500:601 or equivalent. Survey of research techniques, statistical methods, and data bases with applications to accounting and business functional areas.

660 COST CONCEPTS AND CONTROL  3 credits
Prerequisites: 6000:600, 6800:600, and either 6200:460 or 600. Focus on analysis and control of costs and their uses in decisions on pricing. Determination of cost data and efficiency of decision emphasized.

661 INTERNATIONAL ACCOUNTING  3 credits
Prerequisite: 631. Examination of accounting theory and practice from an international perspective with emphasis on multinational investment, business, and auditing activities and reporting problems.

662 SEMINAR IN TAXATION  1-3 credits
May be repeated for a total of six credits. Prerequisite: completion of M.Tax foundation courses. Program of studies in the tax area of student's choice, in which a finished report is required.

663 SELECTED TOPICS IN TAXATION  1-3 credits
May be repeated for a total of six credits. Prerequisite: completion of M.Tax foundation courses. Provides study in contemporary issues in taxation that are not covered in current courses.

664 GRADUATE INTERNSHIP IN ACCOUNTING  3 credits
Prerequisites: 620, 621, 640, and 652. The course provides an opportunity for graduate accounting students to apply classroom instruction to practice problems in a professional working environment.

665 INDEPENDENT STUDY IN ACCOUNTING  1-3 credits
May be repeated for a total of six credits. Focus on special topics of study and research on an independent basis.

ENTREPRENEURSHIP
6300:
640 FINANCING THE ENTREPRENEURIAL VENTURE  3 credits

670 MANAGING ENTREPRENEURIAL GROWTH  3 credits
Prerequisites: 6500:580 and 6300:640. Interdisciplinary capstone course focusing on problems and opportunities associated with the management of entrepreneurial growth in existing entrepreneurial ventures. Includes a field project.
671 ADVANCED OPERATIONS RESEARCH 3 credits
Prerequisite: 692. Designed to present in more depth and breadth certain topics surveyed in 692, with emphasis on application of these techniques to students' own business situations.

673 QUALITY AND PRODUCTIVITY TECHNIQUES 3 credits
Prerequisites: 662, introduction to techniques for improving productivity and quality, including statistical process control (SPC), material requirements planning (MRP), just-in-time (JIT) inventory control and management of the program.

674 ADVANCED QUALITY AND PRODUCTIVITY TECHNIQUES 2 credits
Prerequisites: 673, examine advanced techniques in statistical process control, experimental design, determination of customer quality needs, customer service, product reliability and management of quality systems.

675 MATERIALS MANAGEMENT 3 credits
Prerequisite: 662. Surveys functions and explores opportunities for profit improvement and cost reductions in those functions integrated under the organizational concept of materials management.

676 MANAGEMENT OF PRODUCTION AND OPERATIONS 3 credits
Prerequisites: 660, 662, 663. Surveys and management of resources required to transform inputs into products or services. Addressess issues related to services, materials, people and equipment valued for production.

678 PROJECT MANAGEMENT 3 credits
Prerequisites: 660, 661, 662. Provides working knowledge of tools and methods available to project managers, including computerized analysis of network models and plan in the planning and control functions.

683 HEALTH SERVICES SYSTEMS MANAGEMENT 3 credits
Prerequisite: 590 or 690 or equivalent or permission of instructor. Study of health services organizations, comparative delivery systems, the role of third-party payers and government policy in health care. Seminar format: major research paper required.

686 HEALTH SERVICES RESEARCH PROJECT 3 credits
Prerequisites: 683 or permission of instructor. In-depth field study in health services administration with applications of research and analytical skills. Course requires review of literature and a major research paper.

687 GRADUATE SEMINAR IN HEALTH SERVICES POLICY AND ADMINISTRATION 3 credits
Prerequisites: 683 or permission of instructor. Advanced seminar. In-depth study of contemporary issues in health services policy and administration, includes examination of macro-societal and micro-organizational issues. Major paper required.

690 SELECTED TOPICS IN HEALTH SERVICES ADMINISTRATION 3 credits
(May not be repeated for more than three credits) Prerequisites: 590 or 690 or equivalent or permission of instructor. Independent study and research of a special topic of interest to health services administration (e.g., management), chosen by the student in consultation with and under the supervision of the instructor.

695 INTERNAL BUSINESS STRATEGY AND POLICY DOMESTIC AND INTERNATIONAL 3 credits
Prerequisite: to be in final course in M.B.A. program. A case-oriented course which focuses on integration of theoretical and practical knowledge acquired in core business courses. Students analyze, evaluate, formulate organization objectives and strategies within domestic and international environmental contexts.

697 INDEPENDENT STUDY IN MANAGEMENT 1-3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in management on an independent basis.

MARKETING
660: 7-3 credits

540 PRODUCT PLANNING 2 credits
Prerequisite: 660. Examine the creation of new products and the marketing of existing products throughout the life cycle. (Graduate credit requires additional research paper.)

550 STRATEGIC RETAIL MANAGEMENT 2 credits
Prerequisite: 660 or permission of instructor. Investigation of strategic and tactical retail operations and issues through the use of case analysis, computer applications, experiential games, and field projects. (Graduate credit requires additional research paper.)

570 BUSINESS TO BUSINESS MARKETING 2 credits
Prerequisite: 660 or permission of instructor. Studies industrial and organizational buyer behavior. The strategic marketing management practices of firms selling to business organizations, government agencies, and institutions are also examined. (Graduate credit requires additional research paper.)

575 BUSINESS NEGOTIATIONS 2 credits
Examines business negotiation principles and practices, and builds skills in the process of negotiating business agreements.

580 SALES MANAGEMENT 2 credits
Prerequisite: 660 or permission of instructor. Develops analytical and managerial skills through case studies and other learning activities relating to the organization, selection, training, motivation, and control of a sales force. (Graduate credit requires additional research paper.)

600 MARKETING CONCEPTS 3 credits
Introduction to course examining buyer behavior, environmental influences, target marketing, product development, distribution, promotion, and pricing for business firms and non-profit organizations within a global context.

620 STRATEGIC MARKETING MANAGEMENT 3 credits
Prerequisite: 550 or equivalent. Management of marketing opportunities, threat are explored as are the development and management of appropriate strategic marketing plans and their tactical implementation.

630 MARKETING OF SERVICES 3 credits
Prerequisite: 660 or permission of instructor. Examines marketing strategies within the service industry. Focuses on such fields as transportation, financial, and retail (e.g., educational, societal organizations). Product support services are also covered.

640 BUSINESS RESEARCH METHODS 3 credits
Prerequisites: 550, 660 and 662. Covers the scientific methods as well as the gathering and analysis of information to identify opportunities and solve problems within a business organization.

650 CONSUMER BEHAVIOR 2 credits
Prerequisite: 660. Examine the marketplace behavior of individual households and organizations. Focus is placed in integrating theoretical models with managerial applications.

655 MARKETING COMMUNICATIONS 3 credits
Prerequisite: 660. The total range of marketing communication tools are examined individually and in the context of planning, developing, and implementing a systematic and integrated system.

670 COMPETITIVE BUSINESS STRATEGY 3 credits
Prerequisites: 660-601, 660-602, 660-603, and 660-605. Investigates of competitive business strategy from an industry perspective. Course projects a framework which can be used to understand and develop competitive strategies.

680 APPLICATIONS OF MARKETING THEORY 3 credits
Prerequisite: 660. Examines marketing theories and their applications to business problem solving and decision making. Selections readings and field projects are used to enhance the student's managerial skills.

597 INDEPENDENT STUDY IN MARKETING 1-3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in marketing on an independent basis.

PROFESSIONAL
6700:

680 PROFESSIONAL RESPONSIBILITY 1 credit
Prerequisite: Nine graduate credits. Seminar on the professional responsibilities of business men and women to make them and the business organization in which they work more responsible decision makers.

682 INTERNATIONAL BUSINESS 1 credit
Prerequisite: Nine graduate credits. Enhances understanding of global business issues, presents relevant trends and updates, facilities business interaction, and explores practical practices of international business.

694 APPLIED BUSINESS DOCUMENTATION AND CONTACT 1 credit
Prerequisite: 683 or permission of instructor. Examines business documentation and contact. Includes study of contracts, memoranda, and other documents.

695 INTERNSHIP IN BUSINESS 3 credits
Prerequisite: 683 or permission of instructor. Internship in business. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and written papers required. Cred/Noncred.

696 SPECIAL TOPICS IN PROFESSIONAL DEVELOPMENT 1 credit
Prerequisite: 683 or permission of instructor. Examines marketing theories and their applications to business problem solving and decision making. Selections readings and field projects are used to enhance the student's managerial skills.

INTERNATIONAL BUSINESS
6800:

605 INTERNATIONAL BUSINESS ENVIRONMENTS 3 credits
An introductory course designed to develop a broad understanding of global business environments.

630 INTERNATIONAL MARKETING POLICIES 3 credits
Prerequisite: 650-602 and 660-605 or permission of instructor. Explores the problems of formulating and implementing marketing strategies and tactics within complex and changing multinational organizations and international markets. A planning framework is emphasized.

685 MULTINATIONAL CORPORATIONS 3 credits
Prerequisite: 683. An advanced course designed to develop an in-depth understanding of global business enterprises and their organizational, structural, and strategic operations.

690 SEMINAR IN INTERNATIONAL BUSINESS 3 credits
Prerequisite: 650 and a total of 15 Phase II graduate credits or permission of instructor. Advanced course covering several major enrichment international business topics.

697 INDEPENDENT STUDY IN INTERNATIONAL BUSINESS 1-3 credits
(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.
FAMILY AND CONSUMER SCIENCES
7400:

501 FAMILY-LIFE PATTERNS IN THE ECONOMICALLY DEPRIVED HOME
2 credits
Study of family life organization and lifestyle patterns among economically depressed families. Emphasis on impact on social and economic development.

502 ADVANCED FOOD PREPARATION
3 credits
Prerequisite: 311. 320 or permission of instructor. Study of advanced techniques of food preparation, introduction to and interpretation of classic and foreign cuisine. Emphasis on individual and group application. Development and refinement of procedures and recipes.

503 ADOLESCENCE IN THE FAMILY CONTEXT
2 credits
Prerequisites: 320, 325 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
2 credits
Analysis of the family as a financial unit including financial problems and their resolution, decision-making patterns and financial problem solving. Cases, exercises, and computer analysis.

515 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.

516 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

523 PROFESSIONAL IMAGE ANALYSIS
3 credits
Prerequisites: Senior status. Comparison of theories associated with projecting and maintaining an appropriate professional image consistent with career goals and objectives.

524 NUTRITION IN THE LIFE CYCLE
3 credits
Prerequisite: 136. Study of the physiological basis for nutritional requirements, interpreting factors which affect growth, development, maturation, and nutritional status from conception through the elderly years.

525 ADVANCED TEXTILES
3 credits
Prerequisite: 211. Evolution of physical, aesthetic, comfort, care and durability properties of textile products and testing procedures to determine suitability for desired end use.

527 TEXTILE AND APPAREL INDUSTRIES
3 credits
Prerequisite: 250. Examines the global structure and scope of the textile and apparel industries emphasizing an economic perspective.

532 INTERIOR TEXTILES AND PRODUCT ANALYSIS
3 credits
Prerequisite: 206. Examination, evaluation and analysis of products for interiors with emphasis on shade classifications, selection criteria, economic factors, and legislative concerns.

535 PRINCIPLES AND PRACTICES OF INTERIOR DESIGN
3 credits
Prerequisites: 356 and 453 or 453. Study of the theories aspects of interior design: design, manufacturing, home furnishing and principles and psychology of marketing home furnishings.

536 TEXTILE CONSERVATION
3 credits
Prerequisites: 212, 213, 311. Principles and practices of textile conservation with emphasis on procedures applicable for collectors and small historical garments.

537 HISTORIC COSTUME TO 1940
3 credits
Prerequisite: 136. Study of costume and textiles from antiquity through the eighteenth century, with emphasis on social cultural influences.

538 HISTORY OF FASHION SINCE 1780
3 credits
Prerequisite: 213. 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 families. Emphasis on degree of disorganization, coping and recovery. Includes theory, research and application.

542 HUMAN SEXUALITY
3 credits
Prerequisite: 201 or permission of instructor. Introduction to values and beliefs. Emphasis is on the role of values in intimate relationships, the diversity of sexual responsibility.

545 PUBLIC POLICY AND AMERICAN FAMILIES
3 credits
Prerequisite: 136. An examination of legislation in such areas as housing, clothing, consumer affairs, family formation and dissolution, resource conservation, child development and health care affects and, in some cases, determines the nature, structure, and quality of the family as a social institution.

546 CULTURE, ETHNICITY AND THE FAMILY
3 credits
Study of the role of culture and ethnicity in the adaptation of the family system to the environment. Problems and applications considered.

547 BEFORE AND AFTER SCHOOL CHILD CARE
3 credits
Study of the development, implementation and evaluation of school-age child care programs before and after school and vacation periods.

548 FLAT PATTERN DESIGN
3 credits
Prerequisite: 120 or equivalent. Theory and experience in design using flat pattern techniques.

551 CHILD IN THE HOSPITAL
3 credits
Prerequisite: 201. Corequisite: 120 or permission of instructor. Seminar dealing with special needs and problems of hospitalized child and family. Literature related to effects, separation, illness, stress and stress. Emphasis on strategies for coping.

555 PRACTICUM ESTABLISHING AND SUPERVISING A CHILD-LIFE PROGRAM
3 credits
Prerequisite: 455/555. Explores procedures for implementing and setting up child-life programs; clinical applications enforced.

560 ORGANIZATION AND SUPERVISION OF CHILD-CARE CENTERS
3 credits
Theory, principles and procedures involved in establishing and operating centers for infants, toddlers, preschool, and school-age children.

561 CASE MANAGEMENT FOR CHILDREN AND FAMILIES I
2 credits
Provides an overview of Case Management basics in a multi-systems collaborative context. Includes roles, values, principles, state and national systems, and service coordination.

562 CASE MANAGEMENT FOR CHILDREN AND FAMILIES II
2 credits
Prerequisite: 455/555. Explores in depth the practice of Case Management principles and applications. Emphasis on process and functions, assessment, cross-system service planning and coordination, family involvement, and evaluation.

563 PRACTICUM IN CROSS-SYSTEMS CASE MANAGEMENT FOR CHILDREN AND FAMILIES
3 credits
Prerequisites: 461/561, 462/562, and six hours of electives. Provides on-site opportunities to apply skills in cross-systems collaborative Case Management with children and families. Includes review of strategies, effects, and survival skills, and supervision.

570 FOOD INDUSTRY: ANALYSIS AND FIELD STUDY
2 credits
Prerequisite: 245 or permission. Role of technology in extending the food supply. Chemical, physical and biological effects of processing and storage. Onsite tours of processing plants.

644 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, geography, gender roles, media.

575 ANALYSIS OF FOOD
3 credits
Prerequisite: 250. General chemistry or equivalent. Comprehensive course in the theory and practice of food analysis by classical and modern chemical and instrumental methods. Principles emphasized by experimentation and demonstration.

576 DEVELOPMENTS IN FOOD SCIENCE
3 credits
Prerequisite: 246. Advanced study of the chemistry and physics of food components, affecting characteristics of foods. Critical evaluation of current basic and applied research emphasis.

580 COMMUNITY NUTRITION I-LABORATORY
3 credits
Prerequisite: 455/555. Corequisite: 311. Special course for community nutrition students. Special topics and programs emphasizing community nutrition services.

581 COMMUNITY NUTRITION II-LABORATORY
3 credits
Prerequisite: 460/560. Corequisite: 441/541. Special laboratory program in community nutrition services. Studies the agency’s goals, organization, and philosophy of nutrition services.

582 COMMUNITY NUTRITION I-CLINICAL
1 credit
Prerequisite: CP student only. Corequisite: 441/541. Special laboratory program in community nutrition services. Studies the agency’s goals, organization, and philosophy of nutrition services.

583 COMMUNITY NUTRITION II-CLINICAL
1 credit
Prerequisite: CP student only. Corequisite: 441/541. Special laboratory program in community nutrition services. Studies the agency’s goals, organization, and philosophy of nutrition services.

584 ORIENTATION TO THE HOSPITAL SETTING
2 credits
Prerequisite: 201 or permission of instructor. Focuses on hospital as a model of an institution: introduces procedures and functions of the hospital, role played by various hospital personnel plus curricular knowledge of medical terminology, common childhood diseases, illnesses and injuries.
601 CHORAL LITERATURE
Prerequisite: permission of instructor. Study in depth of style, structure, technical demands, manner of setting text, and special performance problems found in masterworks by great composers of nine centuries.

604 DEVELOPMENT OF OPERA
Prerequisite: permission of instructor. Growth and development of opera from 1600 to present. Includes detailed examination of stylistic and structural changes as well as performance practices.

605 SEMINAR IN MUSIC OF THE WESTERN HEMISPHERE
Prerequisite: permission of instructor. Designated to improve understanding of peoples and cultures of Western Hemisphere through study of music of each major area. Research and writing in areas of special interest.

611 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION
Prerequisite: permission of instructor. Study of basic philosophical, historical, sociological and psychological concepts and principles of public elementary and secondary music education.

612 PRACTICES AND TRENDS IN MUSIC EDUCATION
Prerequisite: permission of instructor. In-depth exploration of innovative practices and trends in music education. Emphasis on research and practice related to prevailing situations in public-school programs.

617 INSTRUCTIONAL PROGRAMMING IN MUSIC FOR THE MICROCOMPUTER
Prerequisite: 432/553 Introduction to programming languages for the microcomputer including BASIC, Pascal and Assembly. Programming will be directed towards music educational concepts.

618 MEASUREMENT AND EVALUATION IN MUSIC
Prerequisite: permission of instructor. Study and applications of principles of music aptitude, music achievement and current evaluation, and research as a function of evaluation.

619 MUSICAL STYLES AND ANALYSIS I
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from the Gregorian chant through the Baroque. Emphasis on the relationship of music theory to music history.

620 MUSICAL ANALYSIS II
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from the Baroque through Beethoven and Strauss.

621 MUSICAL STYLES AND ANALYSIS IV
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music in the 20th century.

619 THEOREY AND PEDAGOGY
Prerequisite: permission of instruction. Methodology of theory teaching in 20th Century. Focus on current philosophies and approaches to theory instruction as related to student's particularneeds.

620 COMPUTER ANALYSIS IN MUSIC
Prerequisite: A minimum of one course in the 615-618 series. A systematic study of analytic techniques in music which make use of the computer. Hands-on experiences with music encoding and manipulation, interactive systems and program writing as related to music analysis.

621 MUSICAL HISTORY SURVEY: MIDDLE AGES AND RENAISSANCE
2 credits
Prerequisite: permission of instructor. Historical and analytical study of aspects of music of the Middle Ages and Renaissance. Research and writing in areas of special interest.

622 MUSICAL HISTORY SURVEY: BAROQUE
2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Baroque music, study in depth of specific examples, scores, recordings, and live performances; conclusion and synthesis of approaches. Normal to study of music history; selected readings related to each student's particular interests.

623 MUSICAL HISTORY SURVEY: CLASSIC AND ROMANTIC
Prerequisite: permission of instructor. Historical and stylistic analysis of Classic and Romantic music, study in depth of specific examples, scores, recordings, and live performances; conclusion and synthesis of approaches. Normal to study of music history; selected readings related to each student's particular interests.

624 MUSICAL HISTORY SURVEY: 20TH CENTURY
Prerequisite: permission of instructor. Historical and stylistic analysis of 20th century music. Study in depth of specific examples from scores, recordings, and live performances; conclusion and synthesis of approaches. Normal to study of music history; selected readings related to each student's particular interests.

625 GRADUATE MUSICAL LITERATURE: READINGS AND RESEARCH
Prerequisite: permission of instructor. Historical and analytical study of major works from all periods for voice from operatic, oratorio and choral literature and for voice from operatic, oratorio and choral literature. Emphasis on the relationship of music theory to music history.

626 MUSICAL HISTORY SURVEY: MODERNISM
Prerequisite: permission of instructor. Historical and stylistic analysis of Modernism music, study in depth of specific examples from scores, recordings, and live performances; conclusion and synthesis of approaches. Normal to study of music history; selected readings related to each student's particular interests.

627 MUSICAL HISTORY SURVEY: CONTEMPORARY
Prerequisite: permission of instructor. Historical and stylistic analysis of Contemporary music, study in depth of specific examples from scores, recordings, and live performances; conclusion and synthesis of approaches. Normal to study of music history; selected readings related to each student's particular interests.

628 MUSICAL HISTORY SURVEY: 21ST CENTURY
Prerequisite: permission of instructor. Historical and stylistic analysis of 21st century music. Study in depth of specific examples from scores, recordings, and live performances; conclusion and synthesis of approaches. Normal to study of music history; selected readings related to each student's particular interests.

629 MUSICAL THEORY AND PRACTICE
Prerequisite: permission of instructor. Historical and analytical study of aspects of music of the 17th century and later. Research and writing in areas of special interest.

630 GRADUATE BIBLIOGRAPHY AND RESEARCH IN MUSIC
Prerequisite: permission. Undergraduate music degree of equivalent. Examination of all types of published music materials: research methods for thesis preparation and professional publishing, field trips to music libraries, and comparative research.

631 MUSIC TECHNOLOGY
Prerequisite: 513 or appropriate computer skills. The art of music notation as related to computer output. Emphasis on musical examples of a variety of types and problem solving using computer techniques.

632 COMPUTER STUDY DESIGN
The design and maintenance of a computer lab. Emphasis on hardware and software setup to maximize function and minimize maintenance.

633 TEACHING AND LITERATURE: BRASS INSTRUMENTS
Prerequisite: permission of instructor. Research in current trends and issues in brass teaching technique and pedagogy.

634 TEACHING AND LITERATURE: WOODWIND INSTRUMENTS
Prerequisite: permission of instructor. Research in current trends and issues in woodwind teaching technique and pedagogy.

635 TEACHING AND LITERATURE: PIANO AND HARP/CHARPOSI
Prerequisite: permission of instructor. An examination of piano and harp/harpist literature in historically chronological order with special attention to its pedagogical value and stylistic differences.

636 TEACHING AND LITERATURE: STRING INSTRUMENTS
Prerequisite: permission of instructor. Research in current trends and issues in string teaching technique and appropriate literature.

637 LESSON VIDEOGRAMS
Prerequisite: permission of instructor. Research in current trends and issues in piano teaching technique and appropriate literature.

640.1,2,3 ADVANCED ACCOMPANYING I, II, III, IV
1 credit each
Prerequisite: Graduate standing in keyboard performance and/or accompanying or the permission of the instructor. An in-depth study of principles of accompanying, sight reading, standard repertoire, and transcriptions of nine centuries.

647 MASTER'S CHAMBER RECITAL
1 credit
Prerequisite: permission of instructor. Composition student will present a recital of chamber music compositions of at least one hour's length written while in residence at the university. Student will actively organize and coordinate the recital and will also participate either as performer or conductor.

650 ELECTRONIC MUSIC
2 credits

651 STUDIO RECITAL
Prerequisite: permission of instructor. In-depth study of subjects dealing with teaching of voice; physical, vocal voice, principles of vocal production and application of vocal pedagogy.

656 ADVANCED SONG LITERATURE
Prerequisite: permission of instructor. Systematic study of song literature presented chronologically according to national schools of composition. Stylistic compositional characteristics and representative works of all major composers of solo song literature.

657 SEMINAR IN MUSIC EDUCATION
1 credit
May be repeated for a total of 6 credits. Intensive examination of special topics in the field of music education.

658 ADVANCED PROBLEMS IN MUSIC
2 credits
May be repeated for a total of 8 credits. Prerequisite: permission of graduate adviser. Studies or research projects related to problems in music.

659 GRADUATE RECITAL
2 credits
Prerequisite: permission of graduate adviser. Recital prepared and presented as a requirement for any appropriate degree. If recital document is to be written in conjunction with the comprehensive examination, then 699 for the additional credit.

659 MASTER'S THESIS
4-6 credits
Prerequisite: permission of graduate adviser. Research related to the completion of the master's thesis or recital; written document in conjunction with the graduate recital, depending on the student's degree option.

MUSICAL ORGANIZATIONS

7510:

561 GUITAR CHAMBER MUSIC
1 credit
Prerequisite: Open to all upper-class instrumentalists and vocalists. Guitars must have taken Guitar Ensemble, 675.16. Study, coaching, and performance of major works for guitar with other instruments or voice. Master conductor ensemble for guitar majors.

752 AKRON SYMPHONY CHORUS
1 credit
Open to University and community members by audition. Those interested should contact School of Music: 610-105. Performs with Akron Symphony Orchestra.

753 UNIVERSITY SYMPHONY ORCHESTRA
1 credit
Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special University appearances. Major conducted ensemble.

754 SYMPHONIC BAND
1 credit
Membership by audition. The University Symphonic Band is the select band at the University and performs the most demanding and challenging music available.

755 VOCAL CHAMBER ENSEMBLE
1 credit
Membership open to those enrolled in applied voice study. Coaching and reheasal of solo and ensemble literature for voices from operatic, oratorio and leader repertoires.

756 BRASS ENSEMBLE
1 credit
Membership by audition. Study and performance of literature for brass ensemble from diverse periods for success in music performance. Frequent public concerts. For advanced brass players.

757 STRING ENSEMBLE
1 credit
Membership by audition. In-depth study and performance of chamber music literature with special emphasis on string quartet and piano trio.

758 OPERA WORKSHOP
1 credit
Membership by audition. Musical and dramatic group study of excerpts from opera of periodic repertoire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.

759 PERCUSSION ENSEMBLE
1 credit
Membership by audition. Study and Performance of literature for various percussion groups. Open to any member of percussion faculty.

760 WOODWIND ENSEMBLE
1 credit
Membership by audition. Study and performance of woodwind literature from all periods for success in music performance. Frequent public concerts. For advanced woodwind players.

761 CHAMBER ORCHESTRA
1 credit
Membership by audition. Study and performance of woodwind literature from all periods for success in music performance. Frequent public concerts. For advanced woodwind players.

762 KEYBOARD ENSEMBLE
1 credit
Involves three hours a week of accompanying. Keyboard major is required to enroll for at least three years. Music education major may take another music education major for one year.

763 JAZZ ENSEMBLE
1 credit
Membership by audition. Provides experience in jazz ensemble performance. A student is required to take jazz literature and acquire knowledge of repertory of music and some experience in jazz ensemble performance.

764 COLLEGIUM MUSICUM
1 credit
Prerequisite: permission of instructor. A musical ensemble that performs music written before 1600 on copies of authentic instruments.

765 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 varied body of music.
**5720:**

**521-569 APPLIED MUSIC FOR MUSIC MAJORS**

The following courses are intended for student majoring in music. They are designed for various levels of performance and may be repeated with permission of department.

- **PERCUSSION**
- **CLASSICAL GUITAR**
- **HARP**
- **VOICE**
- **PIANO**
- **ORGAN**
- **VIOLIN**
- **VIOLA**
- **CELLO**
- **STRING BASS**
- **TRUMPET OR CORNET**
- **FRENCH HORN**
- **TROMBONE**
- **BARITONE**
- **TUBE**
- **FLUTE OR PICCOLO**
- **FLUTE**
- **HORN**
- **CLARINET**
- **BASS CLARINET**
- ** SARON OR CONTRABASSOON**
- **SAXOPHONE**
- **HARP**
- **HARPSICHORD**
- **APPLIED COMPOSITION**
- **JAZZ PERSUSSION**
- **JAZZ GUITAR**
- **JAZZ ELECTRIC BASS**
- **JAZZ PIANO**
- **JAZZ TRUMPET**
- **JAZZ BARITONE**
- **JAZZ SAXOPHONE**
- **JAZZ COMPOSITION**
- **JAZZ VOCAL STYLES**

**APPLIED MUSIC**

619 UNIVERSITY CHORAL UNION

- **CONCERT CHOIR**
- **OPERAS CHOIR**
- **MADRIGAL SINGERS**
- **PERCUSSION**
- **HARP**
- **APPLIED MUSIC**

620 UNIVERSITY CHOIRAL UNION

621 CONCERT CHOIR

622 OPERA CHOIR

623 MADRIGAL SINGERS

624 MARCHING BAND

625 CONCERT BAND

626.5 BLUE AND GOLD BRASS

628 UNIVERSITY BAND

**COMMUNICATION 7600:**

- **HISTORY OF JOURNALISM IN AMERICA**
- **WOMEN, MINORITIES AND NEWS**
- **COMMUNICATION IN ORGANIZATIONS**
- **ANALYZING ORGANIZATIONAL COMMUNICATION**
- **TRAINING METHODS IN COMMUNICATION**
- **THEORY OF GROUP PROCESSES**
- **PUBLIC SPEAKING IN AMERICA**
- **ADVANCED MEDIA WRITING**
- **AUDIO AND VIDEO EDITING**
- **ADVANCED AUDIO AND VIDEO EDITING**
- **THEORIES OF RHETORIC**
- **COMMUNICATION WORKSHOP**
- **EMPIRICAL RESEARCH IN COMMUNICATION**
- **INTRODUCTION TO QUANTITATIVE RESEARCH IN COMMUNICATION**
- **COMMUNICATION PROBLEMS IN THE BASIC SPEECH COURSE**
- **COMMUNICATION PEDAGOGY**

**THE UNIVERSITY OF AKRON**
SPEECH-LANGUAGE PATHOLOGY & AUDIOLOGY
7700:

530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
(Not open to communicative disorders majors) Introduction to acquisition and development of language and language disorders. Emphasis on language acquisition of normal and disordered development.

540 AUGMENTATIVE COMMUNICATION 2 credits
Prerequisite: 530 or permission of instructor. Overview of augmentative communication systems, including sign language, picture symbol systems, voice output devices, and others. Emphasis on assessment and implementation.

550 MULTICULTURAL CONSIDERATIONS FOR AUDIOLOGISTS AND SPEECH-LANGUAGE PATHOLOGISTS 2 credits
Prerequisites: 700/110 or permission of instructor. This course introduces the cultural issues faced by audiologists and speech-language pathologists working with people of diverse cultures.

551 SPEECH AND LANGUAGE HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits
(Not open to communicative disorders majors) Neuropsychological aspects of speech, hearing, and language disorders in public schools. Focus on the role of classroom teachers in identifying and referring students with suspected problems and in working with school clinicians.

561 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH-LANGUAGE AND HEARING PROGRAMS 2 credits
Prerequisites: Senior or graduate standing. Focus on organizational and management of public school speech-language and hearing programs. Serves as an introduction to public school speech-language pathology and audiology.

562 SPEECH-LANGUAGE AND AUDIOTHERAPY 3 credits
Prerequisites: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with speech, language, and hearing disorders.

563 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits
(Not open to students majoring in geriatrics) Examination of communication disorders that affect the elderly. Focus on the differential diagnosis and treatment of communication disorders in the elderly.

564 WORKSHOP: SPEECH-LANGUAGE PATHOLOGY AND/or AUDIOLOGY 13 credits
May be repeated for a total of 12 credits. Emphasis on the practical aspects of speech-language pathology and audiology in a variety of clinical settings.

565 ADMINISTRATION AND SUPERVISION IN SPEECH AND HEARING PROGRAMS 3 credits
Prerequisites: Permission of instructor. Focus on the role of supervisors in the administration and supervision of speech-language pathology and audiology programs.

566 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Focus on the selection and use of current confrontation instruments in speech and hearing.

567 RESEARCH METHODS IN COMMUNICATION DISORDERS 3 credits
Introduction to experimental design in the communication sciences.

568 RESEARCH METHODS IN COMMUNICATION DISORDERS II 3 credits
Advanced research methods in the communication sciences.

569 DEVELOPMENTAL DISORDERS IN CHILDHOOD 2 credits
Focus on the role of speech-language pathologists and audiologists in the assessment and treatment of developmental disorders in children.

570 TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS 2 credits
May be repeated for a total of three credits. Emphasis on the differential diagnosis of speech and language disorders.

571 SCHOOL AGE ASSESSMENT 2 credits
Emphasis on the role of speech-language pathologists and audiologists in the assessment of children in the school setting.

572 LANGUAGE SKILLS IN CHILDREN: ASSESSMENT AND INTERVENTION 3 credits
Prerequisite 625 or permission of instructor. Emphasis on the assessment and intervention strategies for children with language disorders.

573 ACQUIRED BRAIN INJURY 3 credits
Prerequisite: Permission of instructor. Focus on the assessment and intervention strategies for children with acquired brain injury.

574 DYSPHAGIA 2 credits
Emphasis on the diagnosis, assessment, and treatment of swallowing disorders.

575 ADVANCED CLINICAL TESTING 4 credits
Focus on the use of psychometric tests in the evaluation of communication disorders.

576 SPECIAL TESTS/MEDICAL AUDIOLOGY 4 credits
Prerequisite: 550 or permission of instructor. Emphasis on the use of special tests and medical audio testing.

577 PEDIATRIC AUDIOLOGY 2 credits
Prerequisite: 625 or permission of instructor. Focus on the role of pediatric audiologists in the assessment and intervention of children with hearing loss.

578 INDUSTRIAL AUDIOLOGY 2 credits
Prerequisite: 550 or permission of instructor. Focus on the role of industrial audiologists in the assessment and intervention of individuals with hearing loss.

579 JURISPRUDENCE FOR COMMUNICATION PROFESSIONALS 3 credits
Prerequisite: Permission of instructor. Focus on the legal aspects of communication disorders.

580 EVIDENCED BASED PRACTICE 3 credits
Focus on the role of speech-language pathologists and audiologists in the delivery of evidence-based services.

581 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN ART 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with art-related disorders.

582 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN HEALTHCARE 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with healthcare-related disorders.

583 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN EDUCATION 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with educational-related disorders.

584 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN COMMUNICATION 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with communication-related disorders.

585 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN COMMUNITY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with community-related disorders.

586 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN FAMILY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with family-related disorders.

587 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN SCHOOL 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with school-related disorders.

588 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN CLINICAL SETTINGS 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children in clinical settings.

589 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN INDUSTRY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children in industry-related settings.

590 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN ART 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with art-related disorders.

591 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN HEALTHCARE 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with healthcare-related disorders.

592 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN EDUCATION 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with educational-related disorders.

593 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN COMMUNICATION 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with communication-related disorders.

594 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN COMMUNITY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with community-related disorders.

595 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN FAMILY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with family-related disorders.

596 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN SCHOOL 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with school-related disorders.

597 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN CLINICAL SETTINGS 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children in clinical settings.

598 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN INDUSTRY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children in industry-related settings.

599 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN ART 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with art-related disorders.

600 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN HEALTHCARE 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with healthcare-related disorders.

601 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN EDUCATION 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with educational-related disorders.

602 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN COMMUNICATION 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with communication-related disorders.

603 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN COMMUNITY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with community-related disorders.

604 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN FAMILY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with family-related disorders.

605 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN SCHOOL 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children with school-related disorders.

606 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN CLINICAL SETTINGS 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children in clinical settings.

607 PROFESSIONAL PRACTICE: COMMUNICATION DISORDERS IN INDUSTRY 3 credits
Prerequisite: Permission of instructor. Focus on the role of speech-language pathologists and audiologists in the delivery of services to children in industry-related settings.
SPECIAL PROBLEMS: SPEECH PATHOLOGY AND/OR AUDIOLOGY (May be repeated for a total of six credits.) Prerequisite: permission of instructor. Guided research or reading in selected topics in speech pathology, audiology, or language disorders.

MASTER’S THESIS (May be repeated for a total of six credits.) Prerequisite: permission of School Director.

SOCIAL WORK PRACTICE III
Prerequisites: 541 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures. 3 credits

SOCIAL WORK PRACTICE II
Prerequisites: 480 or permission of instructor. Development of understanding and practical methods for utilization of community organization and social planning in social work process in administering problems and developing programs to meet needs. 3 credits

SOCIAL WORK PRACTICE
Prerequisites: 276 or permission of instructor. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families. 2 credits

SOCIAL WORK PRACTICUM
Prerequisite: 276 or permission of instructor. Field practicum in social work agency, based on the student’s concentration and specializations. Guided credits (Offered as needed.)

SIX CREDITS

SOCIAL WORK IN JUVENILE JUSTICE
Prerequisites: 276 or permission of instructor. The theory and practice of social work in the juvenile justice system of the United States. Traditional procedures and recent developments, prevention, diversion and community outreach, legal concepts, case management, institutional functioning.

SOCIAL WORK IN JUVENILE JUSTICE
Prerequisites: 276 or permission of instructor. Graduate study in specialized fields of practice in juvenile justice.

SOCIAL WORK PRACTICE AND THE MENTALLY ILL
Prerequisites: 276 or permission of instructor. Supervision of client. Preparation for professional social work practice with mentally ill individuals and their families.

SOCIAL WORK PRACTICE WITH MINORITY ELECTRONYSTAGMOGRAPHY
Prerequisite: permission of instructor. Study of the anatomy and physiology of the vestibular system: electornystagmographic (ENG) recording procedures, ENG protocols, interpretation of ENG results.

SOCIAL WORK IN HOSPITALS
Prerequisites: 276 or permission of instructor. Policies, programs and practice in healthcare settings. Preparation for practice in hospitals, nursing homes, mental health facilities, and related agencies.

SOCIAL WORK IN THE MENTALLY RETARDED
Prerequisites: 276 or permission of instructor. Supervision of clients. Preparation for professional social work practice with the mentally retarded and developmentally disabled and their families.

SOCIAL WORK IN HOSPITALS
Prerequisite: permission of instructor. Preparation for professional social work practice in hospital, nursing home, and related agencies.

SIX CREDITS

SOCIAL WORK PRACTICE
Prerequisites: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK PRACTICE IV
Prerequisite: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK PRACTICE WITH MINORITY ELECTRONYSTAGMOGRAPHY
Prerequisite: permission of instructor. Preparation for professional social work practice with minority individuals and their families.

SOCIAL WORK WORKSHOP
Prerequisite: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK ETHICS
Prerequisite: permission of instructor. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families. 3 credits

SOCIAL ENVIRONMENT I
Prerequisite: 276 or permission of instructor. Principles and methods of social work practice with families, organizations, communities, and cultures.

SOCIAL ENVIRONMENT II
Prerequisite: 276 or permission of instructor. Principles and methods of social work practice with families, organizations, communities, and cultures.

SOCIAL ENVIRONMENT
Prerequisite: 276 or permission of instructor. Principles and methods of social work practice with families, organizations, communities, and cultures.

SOCIAL WORK IN HOSPITALS
Prerequisite: permission of instructor. Preparation for professional social work practice in hospital, nursing home, and related agencies.

SOCIAL WORK PRACTICE
Prerequisites: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK PRACTICE WITH MINORITY ELECTRONYSTAGMOGRAPHY
Prerequisite: permission of instructor. Preparation for professional social work practice with minority individuals and their families.

SOCIAL WORK PRACTICE IV
Prerequisite: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK PRACTICE WITH MINORITY ELECTRONYSTAGMOGRAPHY
Prerequisite: permission of instructor. Preparation for professional social work practice with minority individuals and their families.

SOCIAL WORK IN HOSPITALS
Prerequisite: permission of instructor. Preparation for professional social work practice in hospital, nursing home, and related agencies.

SOCIAL WORK PRACTICE
Prerequisites: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK PRACTICE WITH MINORITY ELECTRONYSTAGMOGRAPHY
Prerequisite: permission of instructor. Preparation for professional social work practice with minority individuals and their families.

SOCIAL WORK PRACTICE IV
Prerequisite: 276 or permission of instructor. Preparation for professional social work practice with families, organizations, communities, and cultures.

SOCIAL WORK PRACTICE WITH MINORITY ELECTRONYSTAGMOGRAPHY
Prerequisite: permission of instructor. Preparation for professional social work practice with minority individuals and their families.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>646</td>
<td>SOCIAL WELFARE POLICY I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: graduate status or permission of instructor. Examines the historical, philosophical, and value bases of social welfare as well as the relationship between social work practice, policy and service delivery.</td>
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<tr>
<td>647</td>
<td>SOCIAL WELFARE POLICY II</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: 646 or permission of instructor. This course prepares students with the background to engage in social work practice, policy and service delivery.</td>
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<tr>
<td>650</td>
<td>ADVANCED STANDING INTEGRATIVE SEMINAR</td>
<td>6</td>
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<tr>
<td></td>
<td>Prerequisite: advanced standing. Provides an integrative view of social work practice with an emphasis on values, foundation knowledge, and skills, and evaluation of professional interventions.</td>
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<tr>
<td>656</td>
<td>SOCIAL WORK PRACTICE WITH GAYS AND LESBIANS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate status or permission of instructor. This course explores gay and lesbian culture and lifestyles, discrimination based on sexual orientation, and intervention strategies appropriate to practice with gays and lesbians.</td>
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</tr>
<tr>
<td>663</td>
<td>PSYCHOPATHOLOGY AND SOCIAL WORK</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate status or permission of instructor. An examination of the symptoms, theories, and psychosocial aspects of mental illness, and the role of the social worker in the treatment of mental disorders.</td>
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<tr>
<td>664</td>
<td>SINGLE SYSTEM DESIGN</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. Provides students with advanced knowledge about the methodologies of single-system design and skills to implement an evaluation study of their intervention with clients.</td>
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<tr>
<td>665</td>
<td>SUPERVISION AND STAFF DEVELOPMENT</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. An examination of the purpose, functions, and theories of supervision, the impact of cultural and racial differences in supervision and development, and programs encountered.</td>
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<tr>
<td>671</td>
<td>SOCIAL WORK ADMINISTRATION</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This course focuses on supervisory and managerial roles and functions as they are carried out at different hierarchical levels in human service organizations.</td>
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<tr>
<td>672</td>
<td>STRATEGIES OF COMMUNITY ORGANIZATION</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. Emphasizes the historical development and application of several community strategies used to identify community problems, and how to organize and implement diverse community programs.</td>
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</tr>
<tr>
<td>667</td>
<td>INTRODUCTION TO COMMUNITY ORGANIZATION AND PLANNING</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: must have completed first year of master's program. Required for all second year students concentrating on Macro Practice sequence. Prepares students to work in communities and in public and private agencies.</td>
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</tr>
<tr>
<td>668</td>
<td>COMMUNITY, ECONOMIC SYSTEMS AND SOCIAL POLICY ANALYSIS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This course provides a base for understanding economic systems and analyzing the political framework at federal, state, and local levels and their impact on communities.</td>
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<tr>
<td>675</td>
<td>PROGRAM EVALUATION</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This course provides students with methods of evaluating programs in agencies, including approaches, measurement, data collection and analyses employed in program outcome research.</td>
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<tr>
<td>676</td>
<td>FINANCIAL MANAGEMENT OF SOCIAL PROFESSIONS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This elective course concentrates on the financial management of social agencies. Emphasizes planning and management, principles of economic and fiscal exchange, accountability and fiscal accounting.</td>
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<tr>
<td>680</td>
<td>AGING AND SOCIAL WORK PRACTICE</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. An examination and evaluation of aging programs and policies, demographic trends and the changing role of social work service providers.</td>
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<tr>
<td>681</td>
<td>AGING, POLICIES AND PROGRAMS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. An examination and evaluation of aging programs and policies, demographic trends and the changing role of social work service providers.</td>
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<tr>
<td>682</td>
<td>SOCIAL WORK PRACTICE: FAMILY AND CHILDREN</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. Examines the major problems encountered by children and families in the life cycle and explores intervention strategies and programs to address their needs and strengths.</td>
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<tr>
<td>686</td>
<td>SOCIAL WELFARE POLICY AND SERVICES: FAMILY AND CHILDREN</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. Examines the federal and state laws, policies, and services governing children and families, including the supportive, supplemental, and substitutive aspects of services.</td>
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<tr>
<td>689</td>
<td>ADVANCED PRACTICE AND POLICY IN SUBSTANCE ABUSE</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This course provides students the knowledge and skill bases necessary for managing and practicing with people involved in substance abuse, evaluating programs, and preventive work.</td>
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<tr>
<td>695</td>
<td>HEALTH CARE: PLANNING AND POLICY ISSUES</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This course is designed to orient students to the planning and policy issues in health care, and how social work can interface with health care.</td>
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<tr>
<td>696</td>
<td>EPIDEMIOLOGIC ANALYSIS OF HEALTH AND SOCIAL PROBLEMS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. This course applies the epidemiologic method to social work practice, such as treatment groups, making administrative decisions, in planning and evaluation, and doing preventive work.</td>
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<tr>
<td>765</td>
<td>IMPLICATIONS OF DIVERSITY FOR SOCIAL WORK PRACTICE</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: second level graduate student or permission of instructor. Provocative content of the culture and unique strengths of diverse groups and the implications for social work practice at the community level.</td>
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</table>

**Theater Organizations 7810:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>567</td>
<td>CONTEMPORARY THEATER STYLES</td>
<td>2</td>
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<tr>
<td></td>
<td>A detailed examination of selected plays of the contemporary theater.</td>
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<tr>
<td>575</td>
<td>ACTING FOR THE MUSICAL THEATER</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: permission. A scene study course in analyzing and performing roles in American musicals. Accompanied provided.</td>
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<tr>
<td>590</td>
<td>WORKSHOP IN THEATER ARTS</td>
<td>3</td>
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<tr>
<td></td>
<td>(May be repeated for a total of six credits toward degree) Prerequisite: advanced standing of permission. Group study in project investigating particular phase of theater arts not covered by other courses.</td>
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<tr>
<td>600</td>
<td>INTRODUCTION TO THEATER STUDIES</td>
<td>3</td>
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<tr>
<td></td>
<td>Exploration of the basic research tools and methods appropriate to the discipline. Includes utilization of computer and guidelines for writing thesis.</td>
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<tr>
<td>603</td>
<td>SPECIAL TOPICS IN THEATER ARTS</td>
<td>4</td>
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<tr>
<td></td>
<td>(May be repeated for a total of six credits toward degree) Prerequisite: advanced standing of permission. Group study in project investigating particular phase of theater arts not covered by other courses.</td>
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<tr>
<td>605</td>
<td>COLOGNIUM ON THE ARTS</td>
<td>3</td>
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<tr>
<td></td>
<td>A brief exploration of the major visual and performing arts forms and organizations examined relationship to the business management of arts.</td>
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<tr>
<td>633</td>
<td>SUMMER THEATER</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: permission of instructor. Only. Practical laboratory experience in on or more discipline during the summer doing production and management work at advanced level. (May be repeated to 12 credits.)</td>
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<tr>
<td>641</td>
<td>PROBLEMS IN DIRECTING</td>
<td>3</td>
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<tr>
<td></td>
<td>Advanced directing course with special emphasis on staging of complex plays from all periods of dramatic literature.</td>
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<tr>
<td>645</td>
<td>SEMINAR IN DRAMATIC LITERATURE</td>
<td>3</td>
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<tr>
<td></td>
<td>Representative Western stage (non-American) are examined in theatrical, historical, and critical/theoretical contexts.</td>
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<tr>
<td>662</td>
<td>GRADUATE ACTING TECHNIQUES</td>
<td>3</td>
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<tr>
<td></td>
<td>Advanced study of acting techniques, especially Stanislavski, through analysis and performance. (Voice/ Movement lab required.</td>
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<tr>
<td>666</td>
<td>PROBLEMS IN DIRECTING</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of problems confronting the advanced actor in various modern styles of performance.</td>
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<tr>
<td>667</td>
<td>DRAMATIC THEORY AND CRITICISM</td>
<td>2</td>
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<tr>
<td></td>
<td>An exploration of the major dramatic theorists and critics from Classical Greek to the present,</td>
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<tr>
<td>668</td>
<td>HISTORY OF THEATER PRODUCTION</td>
<td>3</td>
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<tr>
<td></td>
<td>Theater history from the Greeks to the present with emphasis on physical theater, conventions, and the theater architecture of each period.</td>
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<tr>
<td>669</td>
<td>HISTORY AND THEORY OF STAGE LIGHTING</td>
<td>3</td>
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<tr>
<td></td>
<td>Historical survey of evolution of stage lighting in understanding of modern lighting design skills and their practical applications. &quot;Term paper on major project required.</td>
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<tr>
<td>672</td>
<td>ADVANCED TECHNICAL THEATER</td>
<td>2</td>
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<tr>
<td></td>
<td>Processes including multiple set productions, revues and their rigging, techniques in simple hydraulics, pneumatics and load capacities, and properties and techniques in multimedia.</td>
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<tr>
<td>665</td>
<td>AUDIENCE DEVELOPMENT</td>
<td>3</td>
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<tr>
<td></td>
<td>Developing audiences for the arts/through arts marketing techniques, including season and single ticket campaigns, promotional strategies, media/public relations, market research, and telemarketing.</td>
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<tr>
<td>672</td>
<td>PRINCIPLES OF ARTS ADMINISTRATION</td>
<td>3</td>
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<tr>
<td></td>
<td>Principles and practices in nonprofit arts management, including organizational structure, function of boards, personnel and volunteer management, and public policy for the arts.</td>
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<tr>
<td>669</td>
<td>FUND RAISING AND GRANTSMANSHIP IN THE ARTS</td>
<td>3</td>
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<tr>
<td></td>
<td>Techniques and execution of a development campaign for individuals, corporations, foundations, federal and state grants, and sponsorship, including research and proposal writing.</td>
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<tr>
<td>673</td>
<td>GRADUATE RESEARCH/READINGS</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(May be repeated for a total of six credits) Prerequisite: permission. Individual research or in relationship to the summer doing production and/or management work at advanced level.</td>
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<tr>
<td>674</td>
<td>ARTS ADMINISTRATION PRACTICES AND POLICIES</td>
<td>3</td>
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<tr>
<td></td>
<td>Financial management of the arts, facilities management, presenting performances, touring, and management problems in nonprofit theater companies, dance companies, orchestras, and museums.</td>
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<tr>
<td>676</td>
<td>LEGAL ASPECTS OF ARTS ADMINISTRATORS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Legal responsibilities and liabilities of arts organizations, contracts, copyright law, insurance, taxes, arts rights, personnel law, and labor law.</td>
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<tr>
<td>677</td>
<td>INTERNSHIP</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: permission. Faculty supervised work experience in which student participates in an arts management, performance or technical position with a selected cultural organization.</td>
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<tr>
<td>679</td>
<td>MASTER'S THESIS</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>(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.</td>
<td></td>
</tr>
</tbody>
</table>
DANCE PERFORMANCE 7920:

May be repeated for a total of eight credits. Prerequisite: Advanced standing or permission. Group study or group projects investigating a particular field of dance not covered by other courses.

590 WORKSHOP IN DANCE
1 credits
Prerequisite: Advanced standing or permission. May be repeated for a total of eight credits. Group study or group projects investigating a particular phase of dance not covered by other courses.

NURSING 8200:

509 INTERNATIONAL NURSING
3 credits
Prerequisite: Admisision to M.S.N. program. A comparison of nursing roles and responsibilities in an international environment. The influences of education, ethics, government, demography, and geography on health care will be considered.

509 SPECIAL TOPICS: NURSING
1 credits
May be repeated as new topics are presented. Group studies of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit.

503 THEORETICAL BASIS FOR NURSING
3 credits
Prerequisite: Admission to the Graduate Program. Overview of current nursing science. Evaluation and critique of nursing conceptual models. Analysis of the relationships of theory, research, and practice.

505 COMPUTER APPLICATIONS IN NURSING
2 credits
Prerequisite: Admission to Graduate Program. Computer systems influencing nursing practice, research, education, and national knowledge exchange are examined. The complex issues surrounding their use in nursing are explored.

507 POLICY ISSUES IN NURSING
2 credits
Prerequisite: Admission to Graduate Program. Analysis of policy issues that impact on nursing and health care delivery to diverse populations. Examine methods to shape policy, distribution, and allocation of resources.

508 PATHOPHYSIOLOGICAL CONCEPTS OF NURSING CARE
3 credits
Prerequisite: Acceptance into the M.S.N. Program. An in-depth study of pathophysiological conditions and related treatment modalities. The course focuses on specific nursing interventions related to these pathophysiological abnormalities.

510 ADVANCED ADULT/GERONTOLOGICAL ASSESSMENT
3 credits
Prerequisites: Admission to Adult/Gerontological Nursing Practitioner sequence. Corequisite: 621 or 671. Advanced adult/gerontological assessment and clinical reasoning in primary health care nursing with introduction to differential diagnosis and clinical management.

511 ADVANCED CLINICAL PHARMACOLOGY
3 credits
Prerequisite: 638. Examines principles of pharmacology and therapeutics for major pharmacologic agents used by Advanced Practice Nurses to manage adult/gerontological problems in primary health care settings.

513 NURSING INQUIRY I
3 credits
Prerequisite: Admission to graduate program. Concepts and ethical issues relating to scientific inquiry are examined, emphasizing the phases of the research process. Students participate in critical analysis of nursing research.

515 ADVANCED CLINICAL PRACTICE SEMINAR
2 credits
Prerequisites/corequisites: 621 or 671. Focuses on development of clinical practice roles.

516 NURSING INQUIRY II
4 credits
Prerequisite: 613 and permission of instructor. Emphasis on development of competencies in scientific inquiry. Research practicum will involve a pilot study or bi participation in faculty research.

519 RESOURCE MANAGEMENT IN NURSING SETTINGS
3 credits
Prerequisites: 603, 619, 6200, 630, 631. Examines management of fiscal and human resources in nursing service settings; analyzes impact of economics and labor markets on health and nursing care.

523 FISCAL MANAGEMENT IN NURSING ADMINISTRATION
3 credits
Prerequisite: Admission to M.S.N. program. Examines management of fiscal resources in nursing service settings.

525 ORGANIZATIONAL BEHAVIOR IN NURSING SETTINGS
3 credits
Prerequisites: 603, 6200, 630, 631. Examines organizational behavior theories/principles related to systems analysis and assessment of organizational structure in nursing settings.

526 PRACTICUM: NURSING ADMINISTRATION I
5 credits
Prerequisites: 630, 632, and 635. Leadership and management theories are utilized to guide study of the role of nurse administrator.

527 PRACTICUM: NURSING ADMINISTRATION II
5 credits
Prerequisites: 635. Leadership and management theories are utilized to guide practice of the role of nurse administrator.

540 SCIENTIFIC COMPONENTS OF NURSE ANESTHESIA
3 credits
Prerequisite: Admission into the Nurse Anesthesia program. Corequisite: 603. The course presents content dealing with the chemical and physical components of anesthetic agents.

541 PHARMACOLOGY FOR NURSE ANESTHESIA I
3 credits
Prerequisites: 603, 620, 640. The study of anesthetic induction agents, injectable anesthetics and inhalation anesthetics commonly used in the administration of general anesthesia. Includes use of muscle relaxants.

542 INTRODUCTION TO NURSE ANESTHESIA
1 credit
Prerequisite: Admission into the Nurse Anesthesia program. This course provides a general overview of anesthetic concepts and prepares students for their in-hospital residency. The course includes a lecture component and selected laboratory experiences.

544 PRINCIPLES OF ANALGESIA
4 credits
Prerequisite: 640. This course focuses on the diagnosis of basic skills related to nursing anesthetics and administration of analgesic agents, with a focus on equipment.
PHARMACOLOGY FOR NURSE ANESTHESIA II
Prerequisites: 641. Focuses on pharmacology of drugs used in anesthesia. Emphasis on pharmacology and clinical applications.

PRINCIPLES OF ANESTHESIA II
Prerequisites: 643, 645. Focuses on advanced anesthetic techniques and clinical applications.

PROFESSIONAL ROLE SEMINAR
Prerequisites: 644, 645, 646. Focuses on professional role development and ethical issues in anesthesia.

NURSE ANESTHESIA RESIDENCY
Prerequisites: 654, 656. Focuses on advanced anesthetic techniques and clinical applications.

ADVANCED PEDIATRIC/ADOLESCENT ASSESSMENT
Prerequisites: Admission to Graduate Program. Emphasis on advanced anesthetic techniques and clinical applications.

CHILD AND ADOLESCENT HEALTH NURSING I
Corequisites: 650, 651. Focuses on advanced anesthetic techniques and clinical applications.

CHILD AND ADOLESCENT HEALTH NURSING II
Corequisites: 650, 651. Focuses on advanced anesthetic techniques and clinical applications.

PHARMACOLOGY FOR CHILD AND ADOLESCENT HEALTH NURSING
Prerequisites: 643, 645. Focuses on advanced anesthetic techniques and clinical applications.

CHILD AND ADOLESCENT HEALTH NURSING II
Prerequisites: 650, 651, 652. Focuses on advanced anesthetic techniques and clinical applications.

PSYCHOPHARMACOLOGY
Prerequisites: 654, 656. Focuses on advanced anesthetic techniques and clinical applications.

ADVANCED PEDIATRIC/ADOLESCENT ASSESSMENT II
Prerequisites: Admission to Graduate Program. Emphasis on advanced anesthetic techniques and clinical applications.

PSYCHOPHARMACOLOGY
Prerequisites: 654, 656. Focuses on advanced anesthetic techniques and clinical applications.

LIAISON-COMMUNITY MENTAL HEALTH NURSING I
Prerequisites: 653, 654, 655. Focuses on advanced anesthetic techniques and clinical applications.

LIAISON-COMMUNITY MENTAL HEALTH NURSING INTERNSHIP
Prerequisites: 656 and 657. Focuses on advanced anesthetic techniques and clinical applications.

LIAISON-COMMUNITY MENTAL HEALTH NURSING II
Corequisites: 650, 651. Focuses on advanced anesthetic techniques and clinical applications.

PRACTICUM: CHILD AND ADOLESCENT HEALTH NURSING
Prerequisites: 650, 651. Focuses on advanced anesthetic techniques and clinical applications.

PRACTICUM: LIAISON-COMMUNITY MENTAL HEALTH NURSING
Prerequisites: 656. Focuses on advanced anesthetic techniques and clinical applications.

ADULT AND GERONTOLOGICAL HEALTH NURSING I
Prerequisites: 657. Focuses on advanced anesthetic techniques and clinical applications.

ADULT AND GERONTOLOGICAL HEALTH NURSING II
Prerequisites: 658. Focuses on advanced anesthetic techniques and clinical applications.

ADULT AND GERONTOLOGICAL HEALTH NURSING III
Prerequisites: 659, 660. Focuses on advanced anesthetic techniques and clinical applications.

PRACTICUM: ADULT AND GERONTOLOGICAL HEALTH NURSING
Prerequisites: 657, 658. Focuses on advanced anesthetic techniques and clinical applications.

NURSING CURRICULUM DEVELOPMENT
Prerequisites: 653, 654, 655, 656, 657, 658. Focuses on advanced anesthetic techniques and clinical applications.

EVALUATION IN NURSING EDUCATION
Prerequisites: 654, 655. Focuses on advanced anesthetic techniques and clinical applications.

PRACTICUM: THE ACADEMIC ROLE OF THE NURSE EDUCATOR
Prerequisites: 656. Focuses on advanced anesthetic techniques and clinical applications.
POLYMER ENGINEERING
9841:

601 POLYMER ENGINEERING SEMINAR 1 credit
Presentations of recent research on topics in polymer engineering by internal and external speakers.

611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIATION 2 credits
Characterization of orientation, morphology, superstructure in polymers using x-ray, light scattering, birefringence, dichroism, crystallography, unit cell determination.

621 RHEOLOGY OF POLYMER FLUIDS 3 credits

622 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS I 3 credits
Prequisite: 602. Methodology and engineering principles and procedures design analysis of processing operations including extruder screws, injection molds, dies, fibers, film formation.

623 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS II 3 credits
Prequisite: 622. Analysis and design principles and procedures study of non-equilibrium phenomena in polymer engineering emphasizing crystallization, vitrification, frozen orientation, and residual stress, applications, including fiber spinning and film formation.

631 ENGINEERING PROPERTIES OF SOLID POLYMERS 2 credits
Polymers as a function of polymer structure, optical characteristics, mechanical including ultimate properties, viscoelastic behavior of elastomers and plastics, large strain behavior, evaluation and testing.

635 MECHANICAL STRENGTH OF POLYMER SOLIDS 2 credits
Extended chain crystal and theoretical strength of crystalline polymers, impact and high speed testing, fatigue, stress corrosion, long term stress testing, environmental stress cracking, stress corrosion, reinforcement, impact and modification of thermoplastics, reinforcement of thermosets, reinforcement of elastomers.

641 POLYMER MATERIALS ENGINEERING SCIENCES 2 credits
Physical-chemical properties of amorphous and crystalline polymers. Glass transitions, crystallization, molecular orientation, morphology of important commercial polymers, fabrication processes and composite materials.

642 ENGINEERING ASPECTS OF POLYMER COLOIDS 2 credits
Thermodynamic properties of polymer colloids, so-called macromolecular transformations, polymer solutions, gels, suspensions and emulsions, phase separation, applications to paints and pastes, technologies.

650 INTRODUCTION TO POLYMER ENGINEERING 3 credits
Basic concepts of polymer science taught in lecture-laboratory format intended for orientation of new graduate students.

651 POLYMER ENGINEERING LABORATORY 2 credits
Laboratory experiments on the rheological characterization of polymer melts fabrication of engineering products, structural investigation of polymer parts.

661 POLYMERIZATION REACTOR ENGINEERING 2 credits
Polymerization kinetics, classical reactor design, comparison of polymerization in batch and continuous stirred tank reactors, flow patterns around agitators, tubular reactors, reactor reactors, reactor applications.

699 MASTER'S THESIS 16 credits
May be repeated. Supervised original research in specific area of polymer engineering.

711 ADVANCED ELECTROMAGNETIC AND OPTICAL PROPERTIES AND INVESTIGATIONS OF POLYMERS 2 credits
37440. Maxwell's equations with application to anisotropic dielectrics, birefringence and dichroism and representation of orientation, optical instruments, photoelectricity, scattering and diffraction of x-rays and light, Monte scattering, applications.

714 RHEO-OPTICS OF POLYMERS 2 credits
Applications of rheo-optics as means of determining stress fields in polymer glasses and fluids during deformation, rheological properties of polymers in glasses, rubbery and fluid states. Theory of dynamic birefringence and its application to mechanical relaxations of polymers, superstructure in polymer melts and superstructure in polymer melts.

711 RADIATION SCATTERING AND DIFFRACTION BY POLYMER MATERIALS 2 credits
Principles of scattering and diffraction theory as applied to polymer crystals, glasses and multiphase systems. With particular emphasis on x-ray, neutron and light scattering, analysis and determination of crystal structures, mathematical description of orientation distribution of polymer and determination of orientation factors by WAXD and other methods.

716 NON-NEWTONIAN FLOWS 2 credits
Prerequisite: 4200.00. Rheological behavior of non-Newtonian fluids. Development of fluid constitutive equations. Viscelastic methods.

720 MOLECULAR ASPECTS OF POLYMER RHEOLOGY 2 credits
Prerequisite: 622 or equivalent. Molecular theory for concentrated solutions and melts of flexible homopolymer, molecular theory of miscible polymer blends, block copolymers, and rigid crystalline polymers.

721 RHEOLOGY AND PROCESSING TWO-PHASE POLYMER SYSTEMS 2 credits
Prerequisite: 622 or equivalent. Particle-particle interactions, mixing devices and design, rheological behavior of suspensions of rigid particles, experiments in viscoelastic behavior, phenomenological theories regarding suspension behavior, dispersion of aggregates to form a emulsion, phase morphology development and rheological properties of blends.

722 ADVANCED MODELLING OF POLYMER PROCESSING 2 credits
Prerequisite: Permission of instructor. Modeling of processing operations including extrusion molding, fiber and film processing, computer-aided design.

723 RHEOLOGY AND PROCESSING OF ELASTOMERS 2 credits
Introduction of rheological properties and practical study and analysis of processing operations including behavior in internal mixers, screw extruders, die systems and vulcanization molding.

724 ADVANCED EXTRUSION AND COMPOUNDING 2 credits
Principles of operation and flow in single and twin screw extruders, screw design, characteristics of internal mixers, analysis and simulation of flow.

725 CHEMORHEOLOGY AND PROCESSING OF THERMOSETS 2 credits
Prerequisites: 621 or 622, or permission of instructor. Rheological behavior of thermosets, vulcanization processing of rubbers, transition temperature transition relationships in thermosets, relation injection molding, compression/molding, pultrusion.

727 ADVANCED POLYMER RHEOLOGY 2 credits
Prerequisite: 621 or equivalent. Second level course in non-linear constitutive equation, viscoelastic, viscoelastic-plastic, polymeric materials. Utility and applicability to polymer processing problems.

731 STRESS ANALYSIS OF POLYMER MATERIALS AND COMPOSITES 2 credits
Prerequisite: 631. The design of rubber mounts, bearings and sandwich components with demonstration of finite element methods. Classical plates and shells theories with applications to composite structures.

741 PHASE TRANSFORMATIONS IN POLYMER MATERIALS 2 credits
Prerequisite: permission of instructor. Thermodynamics, nucleation and kinetics of growth of interfaces, crystallochemical schemes and related mechanisms, crystallization, crystal-crystal transformation, stress induced crystallization.

743 POLYMER BLENDS AND ALLOYS 2 credits
Theories of blendability, relationship to structure of components, copolymerizing agents, blending procedures, mechanical properties and structure-property relationships.

745 LIQUID CRYSTALS 2 credits
Prerequisite: permission of instructor. Structure of low molecular weight and polymeric liquid crystals, characterization, physical properties including optical properties, phase transitions, structure-property relationships, processing of polymeric systems.

771 BLOW MOLDING AND THERMOFORMING 2 credits
Fundamentals of blow molding and thermoforming processes. Material structure-property development, cooling and trimming to a finished part.

797 ADVANCED TOPICS IN POLYMER ENGINEERING 2 credits
(For repeat or special topics) (May be repeated). Prerequisite: permission of instructor. Advanced special topics intended for Ph.D. students in polymer engineering.

899 PRELIMINARY EXAMINATION 15 credits
(May be repeated). Prerequisite: completion of qualifying examination. Approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

999 DOCTORAL DISSERTATION 15 credits
(May be repeated). Prerequisite: completion of candidacy examination. Student Advisory Committee. Original research by a Ph.D. candidate.

POLYMER SCIENCE
9871:

511 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS I 2 credits
Prerequisite: 391 or 302 or permission. Interdisciplinary course involving the principles of chemistry and physics are brought to bear on relationships between molecular structure and chemical composition of macromolecules and their physical properties.

512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS II 2 credits
Prerequisite: 3940601 or equivalent. Mechanical characterization of polymeric materials, the Boltzmann principle and lattice. Experimental techniques involving stress-strain behavior, stress relaxation, creep, stress and free vibrations discussed.

513 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS III 2 credits
Prerequisite: 4352. Introduction. Definition of molecular weight, the distribution and dependence principle, time-dependent failure, mechanical properties of polymeric foams and design considerations discussed.

590 WORKSHOP IN POLYMER SCIENCE 13 credits
(To be repeated). May be repeated). Study polymer groups on selected topics involving polymers. May not be used to meet undergraduate or graduate major requirements in polymer science. May be used for elective credit only.

601 POLYMER CONCEPTS 2 credits
Prerequisite: 391 or 302 or permission. Introduction to basic concepts in polymer science, including polymerization, copolymerization processes and naturally occurring polymers. Polymer nomenclature, definitions and classification and mechanical properties. Structure-property relationships.

602 SYNTHESIS AND CHEMICAL BEHAVIOR OF POLYMERS 2 credits
Prerequisite: 391 or permission. Introduction to fundamentals and practical aspects of polymer synthesis and reactions of polymer. General knowledge of laboratory and commercial methods for polymer synthesis, practical examples.

604 SPECIAL PROJECTS IN POLYMER SCIENCE 10 credits
Prerequisite: permission. Research projects of limited nature assigned to student entering polymer science program. Intended to familiarize student with practical problems and techniques in this field.

655 POLYMER CHEMISTRY LABORATORY 2 credits
Prerequisite: Basic knowledge of organic chemistry and 622 or equivalent. The preparation and identification of polymers to illustrate different methods of polymerization such as step reactions and chain reaction.

607 POLYMER SCIENCE SEMINAR I AND II 2 credits
Prerequisite: limited to first and second-year resident graduate students. Participants are to present a 25-minute lecture on some aspect of polymer science and to participate in discussions in seminars presented by other seminar participants.

610 INORGANIC POLYMERS 2 credits
Prerequisite: 391 or 392 or permission. Survey course designed to broaden outlook of typical graduate student beyond chemistry of physics of carbon chain.

611 POLYMER SCIENCE LABORATORY 2 credits
Prerequisite: 391 or permission. Introduction to elementary polymer science, extrusion, kneading, vulcanization, preparation and testing of polymers.

615 LABORATORY COMPUTER APPLICATIONS IN POLYMER SCIENCE 2 credits
Prerequisite: 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.
631 PHYSICAL PROPERTIES OF POLYMERS I
Prerequisite: permission of instructor. Thermodynamic and molecular basis of rubber elasticity; thermodynamic and mechanical properties of polymeric materials; stress-strain and energy relationships; modern models of rubber-like materials. 2 credits

632 PHYSICAL PROPERTIES OF POLYMERS II
Prerequisite: 631 or permission of instructor. Normal-coordinate theories of molecular motion and applications to time-dependent mechanical, electrical, and thermal properties of polymeric systems; time-temperature superposition; free volume, WLF relation, fracture, glass transition. 2 credits

640 SYNTHESIS AND TECHNOLOGY OF ELASTOMERS
Prerequisites: 350.313 and 350.314 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 effects on physical characteristics of the elastomers. 2 credits

674 POLYMER STRUCTURE AND CHARACTERIZATION
Prerequisites: 350.313 and 350.314 or permission of instructor. Presentation of statistical description of polymer molecular properties including chain polymerization and degradation, characterization of conformation, molecular weight, local structure, crystal structures and ordering. 2 credits

675 POLYMER THERMODYNAMICS
Prerequisite: 654 or permission of instructor. Presentation of the theories and experiments concerning polymer solutions, polymer phase equilibria, and polymers in phase transitions and solution steady-state transport. 2 credits

676 POLYMER CHARACTERIZATION LABORATORY
Prerequisite: 654 or permission of instructor. Laboratory analysis of polymers by fractionation, osmometry, swelling, x-ray diffraction, microscopy, thermal analysis, spectroscopy and chromatography. 2 credits

680 POLYMER PROCESSING
Prerequisite: permission. Study of process engineering in polymer conversion industry emphasizing analytical treatment of heat transfer, mass flow, mixing, shaping and molding of polymeric materials. 2 credits

681 DESIGN OF RUBBER COMPONENTS
Prerequisite: 450.653 or equivalent. Principles of design of elastomeric products, emphasizing analytical treatments of elastic behavior and mechanisms of failure of resilient mountings, springs, seats, bearings and tires. 2 credits

699 MASTER'S THESIS
Prerequisite: Permission. For properly qualified candidate for master's degree. Supervised original research in polymer science, under direction of faculty member. Followed by submission of thesis. 16 credits

701 POLYMER TECHNOLOGY I
Principles of compounding and testing, processing principles and types of operation, design principles. 2 credits

702 POLYMER TECHNOLOGY II
Prerequisite: 701 or permission of instructor. Rubber industry, rubber compounding and processing, vulcanization methods, physical testing, plastics preparation and compounding, manufacturing processes. Lecture/laboratory. 2 credits

703 POLYMER TECHNOLOGY III
Prerequisite: 702 or permission of instructor. Flow properties, extrusion, calendaring and rolling, molding, mixing, blow-molding, engineering properties, rubber springs, viscoelastic analysis, design: compounding, laboratory. 2 credits

704 CONDENSATION POLYMERIZATION
Prerequisite: 350.452/552 or permission of instructor. Survey of the theory and practice of condensation polymerization. Numerous commercial examples are given 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
Covers the kinetics and mechanisms of free radical initiated reactions encountered in polymer science, including polymerization mechanisms, detailed 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 INORGANIC AND MONOMER INSERTION REACTIONS
Prerequisite: 350.452/552 or permission of instructor. Covers the scope, kinetics and mechanisms of polymerizations initiated by alkyl, carbanion and oxonium ions as well as polymerizations induced by coordination complexes. Living polymerizations, molecular weights, molecular weight distributions, stereochemistry, solvent effects, polymerization reactions and applications for synthesis. 2 credits

707 KINETICS OF POLYMERIC PROCESSES
Prerequisites: 632 and 675 or permission of instructor. Principles of kinetic theory and statistical mechanics are applied to polymer diffusion, polymerization kinetics, polymer absorption, membrane transport, polymeric phase transformations, gel formation and colloidal destabilization. 2 credits

708 MACROMOLECULAR CHAIN STRUCTURE
Prerequisites: either 350.314, 350.520, or 4210.306, or permission. Chain-like structure of large molecules, fundamental theories of chemical conformation and statistical mechanics developed to degree that these theories apply to polymeric systems can be discussed. 3 credits

709 MACROMOLECULAR CHAIN STRUCTURE LABORATORY
Prerequisite: 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 or technological aspects of macromolecular substances, including laboratory work where applicable. 1-3 credits

712 SPECIAL TOPICS: POLYMER SCIENCE
Prerequisite: permission. Topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular science. 2 credits

713 CHAIN STRUCTURE LABORATORY
Prerequisite: permission. Designed to apply principles discussed in 710 to laboratory determination of polymer structure. 2 credits

899 DOCTORAL DISSERTATION
Open to properly qualified students accepted as candidates for Doctor of Philosophy. 0-2 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 and the party charged in the grievance; and the parties 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 will 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 render a recommendation on the grievance; or 2) the student wishes to appeal the recommendation of the Dean of the Graduate School. The student must 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. The 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 admits 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 President of the Graduate Student Government. 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 President of the Graduate Student Government. 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.
   
   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.

3. 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 must 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 advisory colleague 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. All parties shall be entitled to an expeditious hearing. In urgent cases in which it is alleged that a regulation, administrative decision, or action threatens immediate 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 a violation of the complainant’s rights, or there has been no violation of the complainant’s rights.

2. Should the Hearing Committee determine 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 his/her 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 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, 4/22/93
Approved by Graduate Faculty, 4/25/96
Approved by the Academic Policies, Curriculum and Calendar Committee, 3/20/94
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

During your graduate study at The University of Akron and your professional career thereafter, you may become involved with at least one of the three main forms of intellectual property matters: copyrights, patents, and proprietary information/trade secrets. It is possible that certain discoveries may have commercial value, and therefore may involve one or more of the above forms of intellectual property ownership.

Copyright

Copyright by law is automatically owned by the author or the authors, employer or sponsor when the work is placed in a fixed form (or medium). The University Board of Trustees automatically waives any claim of the University to copyright in books, texts, or articles of a purely academic nature authored by faculty or students except when the material is prepared as a sponsored project in which case it is the property of the University. Ownership would then be assigned to the University or its designee as the Board of Trustees directs. Questions of authorship are often best handled informally between potential joint authors.

Patents

All discoveries and inventions made by you while associated with The University of Akron must be reported to your faculty advisor, and through your advisor to your department chair, dean, and thereafter to the Office of Research Services and Sponsored Programs using the standard University of Akron invention disclosure form. This form provides a guide to describing and identifying the invention broadly and referencing specific results. Those persons thought to be possible inventors should also be identified on this form.

Patents on inventions made by University faculty, staff, students or anyone using University facilities are automatically owned by The University of Akron, as provided by Ohio Revised Code Section 3345.14. The final decision as to inventorship is a technical legal conclusion and will be made in the course of preparing a patent application by the patent attorney handling the application.

Proprietary Information

Those engaged in sponsored research may also be involved with developing or receiving proprietary information owned by others outside the University (e.g., sponsors such as corporations and individuals seeking certain research from the University). The University and the principal investigator may have agreed to maintain this proprietary information in confidence. In some situations, proprietary information of a sponsor may be provided to you or other project investigators during a research project. The sponsor desires, in these situations, to keep the information confidential (or secret) for as long as possible.

You are free to use the confidential information in the course of the project and discuss it with other students or faculty members engaged in that project. However, you may not use the information on other projects, nor may you discuss it with other individuals not involved with that project. While these commitments could delay public access to your thesis for a specified time, it will not delay acceptance or approval of your thesis/dissertation nor delay your graduation date.

The University and principal investigator must have written personal commitments from anyone working on a project involving and securing proprietary information. Therefore, all research students are required to execute the Confidentiality Agreement (sample form attached to this page). Prior to the start of your research, it is the responsibility of the research director to inform you in writing of any restrictions on the research with a copy also sent to the Office of Research Services and Sponsored Programs. If your research is subject to confidentiality provisions, you are also to be informed by the research director about the scope of the research that is covered by any confidentiality provisions.

If you have any questions as to what information is proprietary, seek guidance from your project's principal investigator or your faculty research advisor.

Questions of Authorship and Inventorship

In the event you think you have been improperly omitted from the list of authors, you should first discuss the matter with your faculty advisor. If you have further questions or consider the matter unresolved, you should inform in the following order the appropriate department chair, the college dean, and finally the Dean of the Graduate School. (Questions are usually, and most quickly, resolved at the lowest administrative levels.)

In the event you think you have been omitted as an inventor on a patent application, you should first discuss the matter with your faculty research advisor and, thereafter, with your department chair and finally with your academic dean. Following such consultations, either you and/or your faculty advisor, or your department chair, or your dean can request the patent attorney who prepared the application to recheck the findings and then prepare a formal report on inventorship. The whole patent application file may then be referred to the Office of General Counsel for a re-evaluation of valid inventors. However such as re-evaluation by patent counsel shall only occur with the prior knowledge of your faculty advisor, Department Chair and Dean.
THE UNIVERSITY OF AKRON
INVENTION PATENT AGREEMENT

Name: ________________________________

Last First Middle Initial

Social Security No.: ________________________________

The University of Akron graduate students are required to sign this form as a condition of being permitted to participate in any research activity at the University.

1. As a condition of and in consideration of my participating in sponsored research or other financially supported activity at The University of Akron, I hereby agree to communicate fully with my Faculty Advisor, including discussing the details of any work conducted by me and the results which flow therefrom. I recognize that this communication is essential as it relates to any sponsored research, to any course and thesis/dissertation research, and to my safety and the safety of everyone else using the same facility that I use.

2. I further agree to disclose promptly to the director of the research and to my Faculty Research Advisor any invention conceived and/or reduced to practice by me whether jointly with others or solely, which results in whole or in part from such sponsored research or financially supported activity. I agree that I will comply with the provisions of any agreement between The University of Akron and any sponsor for any information and laboratory practice to which I am privileged to know. I will cooperate in assuring that the sponsor’s rights, including rights in inventions, patents, copyrights, are fully protected. Further, I hereby assign all rights, title and interest to The University of Akron for its disposal at its sole discretion.

3. I also acknowledge that certain technical information that may arise as a result of the sponsored research or supported activity may be of a confidential nature. I agree to be bound to the reasonable terms of any nondisclosure agreement as it has been agreed to by the University.

4. Finally, I acknowledge and agree that any rights which arise as a result of the sponsored research or supported activity belong to The University of Akron or to the sponsor as determined by agreement between The University of Akron and the sponsor.

Date ________________________________

Student’s Signature ________________________________
Family Education Rights and Privacy Act (FERPA)

A student has a right to:

- Inspect and review education records pertaining to the student;
- Request and amendment to the student’s records; and
- Request a hearing (if the request for an amendment is denied) to challenge the contents of the education records, on the grounds that the records are inaccurate, misleading, or violate the rights of the student.

The parent or eligible student has a right to:

- Inspect and review the student’s education records;
- Request the amendment of the student’s education records to ensure they are not inaccurate, misleading, or in otherwise in violation of the student’s privacy or other rights.
- Consent to disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA authorizes disclosure without consent.
- File with the U.S. Department of Education a complaint concerning alleged failures by the school to comply with the requirements of FERPA; and
- Obtain a copy of the school’s FERPA policy.

Disclosure of Personally Identifiable Information

FERPA regulations list conditions under which “personally identifiable information” from a student’s education record may be disclosed without the student’s prior consent:

- Disclosure may be made to authorized representatives of the U.S. Department of Education, the Office of Inspector General, or state and local education authorities. These officials may have access to education records as a part of an audit or program review, or to ensure compliance with Student Financial Assistance program requirements. Representatives of the Department include research firms that are under contract with the Department to conduct studies of financial aid procedures, using student information provided by the schools selected for the study. The term also includes the Student Financial Assistance program public inquiry contractor.
- Disclosure may be made if it is in connection with financial aid that the student may receive from the Immigration and Naturalization Service (INS) or the Federal Bureau of Investigation (FBI) for access to a student’s records. Such a request may be granted only if the student information is needed to determine the amount of the aid, the conditions for the aid, the student’s eligibility for the aid, or to enforce the terms or conditions of the aid.
- Disclosure may be made to the student’s parent, if the student is dependent on the parent, as defined by the Internal Revenue Service. If the student receives more than half of his or her support from the parent, under the IRS definition, the student is a dependent of the parent. (Note that the IRS definition is quite different from the rules governing dependency status for the Student Financial Assistance programs.)
- Disclosure may be made to organizations that are conducting studies concerning the administration of student aid programs on behalf of educational agencies or institutions.
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September 1998

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ABDULAH ALONONAH, Associate Professor of Mathematical Sciences (1989) B.S., University of Dayton; M.S., Wright State University, Ph.D., Illinois Institute of Technology, 1989.

STEVEN A. A. W. Education Bibliographer, Associate Professor of Bibliography (August 1986) B.A., University of Texas at Austin, M.A., University of Houston, Ph.D., State University of New York at Buffalo, M.L.S., Kent State University, 1984.


M. KAY ALDERMEN, Professor of Education (1979) B.S., University of Southern Mississippi, M.Ed., University of Texas at Austin, Ed.D., University of Houston, 1970.

TARA A. ALEXANDER, Associate Professor of Music (1978) B.M., The Ohio State University; M.M., University of Louisville, 1974.


CAROLYN N. ANDERSON, Assistant Professor of Communication (1993) B.A., University of Detroit, M.A., Wayne State University, Ph.D., Kent State University, 1992.

WILLIAM A. AUCKBURY, Associate Professor of City Engineering (1962) B.S.C.E., Ohio University, M.S.E.E., Ph.D., University of North Carolina, 1975.


KENNETH E. AUPPERLE, Professor of Management (1986) B.A., Western Michigan University, M.B.A., Kansas State University, Ph.D., University of Georgia, 1982.

JAMES F. AUSTIN, Assistant Professor of Political Science (1996) B.A., University of Connecticut, J.D., University of Dayton, Ph.D., University of Virginia, 1995.


ENRIQUETE C. BARREDA, Associate Professor of Geology (January 1999) B.S., University of Washington; M.A., M.S., Ph.D., Case Western Reserve University, 1987.

GERALD W. BARTLETT, Professor of Psychology; Senior Fellow, Institute for Life Span Development and Geronotology (1973) B.A., Western Michigan University; M.S., Ph.D., Case Western Reserve University, J.D., The University of Akron, 1989.


ABEL A. BARTLEY, Assistant Professor of History (1994) B.A., M.A., Ph.D., Florida State University, 1996.

CELAL BATUR, Professor of Mechanical Engineering (February 1980) B.Sc., M.Sc., The Technical University of Istanbul, Ph.D., The University of Lister, 1976.


JOHN D. BEE, Professor of Communication; General Studies Course Director; Sisect, Interim Associate Dean of the College of Fine and Applied Arts (1969) B.A., Ohio University, Ph.D., University of Wisconsin at Madison, 1972.


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JEAN L. BLOSSER, Intern, Associate Professor of Speech and Language Pathology and Audiology; Director of the Speech and Hearing Center (January 1979) B.A., Ohio University, M.A., Kent State University, Ed.D., The University of Akron, 1986.


DALE S. BROWN, Professor of Mathematical Sciences (1980) B.S., M.S., The University of Akron; Ph.D., Bowling Green State University, 1980.


LARRY G. BRADBURY, Intern, Dean of the College of Education; Professor of Education; Coordinator of Dance Education; Coordinator of the Central Boarder Project (1963) B.A., Muskingum College; M.A., West Virginia University, Ph.D., Ohio University, 1969.

WILLIAM T. BRANDT, Associate Professor of Speech Language Pathology and Audiology (August 1990) A.B., Heidelberg College, M.S., University of Pittsburgh; Ph.D., University of Oklahoma, 1969.


WILLIAM J. BRITTAIN, Professor of Polymer Science (August 1930) B.S., University of Northern Colorado; Ph.D., California Institute of Technology, 1962.


* The dates in parentheses indicate the beginning of service at The University of Akron; unless otherwise stated, service began in the month of September.
JOHN HAROLD LATHARDUS GOGGINS, 136


WILLIAM K. GUEZDOL, Associate Professor of Music, Dean of the School of Music (1961) B.M. Capital University, M.M., Ph.D. Kent State University, 1969.

URUSHOTTAM DAS GUJARAT, Professor of Physics, Ph.D. of Polymer Science (1963) B Sc, Banaras Hindu University, India, M.Sc. Indian Institute of Technology, India, M.A. M. Ph.D., Ph.D. of London University, 1978.

VIRGINIA L. GUNN, Professor of Family and Consumer Sciences (1974) B.S., Kansas State University, M.S., Syracuse University, Ph.D. The University of Akron, 1992.


ALI HAJJAFAR, Associate Professor of Mathematical Sciences (1984) B.S., M.S. University of Kentucky, M.S., Michigan State University, 1984.

ROSALIE J. HALL, Assistant Professor of Psychology, Fellow, Institute for Life-Span Development and Gerontology (1986) B.S. Western Michigan University, Ph.D. University of Michigan, 1987.

STEPHEN F. HALLAM, Dean of the College of Business Administration, Professor of Management (1995) B.S., M.S., Illinois State University, Ph.D. University of Iowa, 1970.

GARY R. HAMER, Professor of Polymer Science (1960) B.S.C.E., M.S.C.E., Coral University, Ph.D. University of Akron. 1972.

CHANG D. HAN, Benjamin Franklin Goodrich Endowed Professor of Polymer Engineering (1990) B.S., Seoul National University, M.S., Cornell University, 1987.

LAWRENCE A. JURGENS, Assistant Professor of Polymer Science (1960) B.S., M.S. State University, 1971.

TOM T. HARTLEY, Professor of Electrical Engineering (1984) B.S., B.S.E.E., Ohio Northern University, M.S. University of Pittsburgh, Ph.D. University of Virginia, 1969.

DONALD E. HARRIS, Professor of Aeronautics (1973) B.A. Marktown State College, M.A. Temple University, 1917.

JAMES K. HARDY, Professor of Chemistry (1981) B.S., Cumberlidge College, Ph.D., Louisiana State University, 1987.

JAMES T. HARDY, Assistant Professor of Education; Associate Professor of Education; Department Chair of Educational Foundations and Leadership (1991) B.A. Ohio Dominican College, B.A. St. Charles Borromeo Seminary, M.A. The Ohio State University, 1975.

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HANS O. HARRIS, Professor of Chemistry (1986) B.S., University of Virginia, 1987.

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WALTER L. HIXSON, Professor of History; Department Chair of History (1985) B.A. University of Kentucky, M.A., Western Kentucky University, Ph.D., University of Colorado, 1986.

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PHILIP A. HOWARD, Associate Professor of History (August 1991) B.S., Manchester College, M.A., Ph.D. Indiana University at Bloomington, 1986.


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NATHAN IDA, Professor of Electrical Engineering; Department Chair of Electrical Engineering (1980) B.Sc. EE., M.Sc. EE., Ban-Gul University of the Nag, Ph.D. Colorado State University, 1993.
GAY TUCKER R.


IL gathers more from the diversity of disciplines and is characterized by continuous development of the discipline's understanding of aging and its role in the life span. Throughout its history, the discipline has grown from a single field of study to encompass many related fields, including Biology, Psychology, Sociology, Economics, Management, and Planning.

SUSAN N. KUSHNER, Assistant Professor of Education (1994) B.S., Ohio University, M.A., John Carroll University, Ph.D., University of South Florida, 1995.

PAUL J. KUZDRAV, Professor of Management (1988) B.S.E., University of Michigan; M.B.A., University of Akron, Ph.D., Kent State University, 1989.


DAVID E. KYU, Professor of History (1971) B.A., Kalamazoo College, Ph.D., Northwestern University, 1975.

KAREN E. LANEY, Professor of Real Estate; Charles Harben Professor of Real Estate (1991) B.A., University of Florida; M.B.A., Ph.D., Florida State University, 1985.

PAUL G. LARSON, Associate Dean of Engineering Undergraduate Studies and Minority Affairs; Associate Professor of Mechanical Engineering; Director of Cooperative Engineering Education (1980) B.S., Purdue University, M.S., University of Illinois at Urbana; Ph.D., The University of Akron, 1978.

LUCINDA S. LAVELLE, Associate Professor of Dance, Director of the School of Dance, Interim Director of the School of Dance (1995-1996) B.A., Denison University, M.F.A., Case Western Reserve University, 1991.

PETER J. LEAHY, Professor of Public Administration and Urban Studies; Center Associate, Center for Urban Studies; Professor of Sociology (1980) B.A., St. Peter's College, M.A., The University of Akron; Ph.D., Syracuse University, 1975.

NOEL L. LEATHERS, Interim Sico President and Provost; Professor Emeritus of History (1972) B.S., M.A., Ohio State University; Ph.D., University of Oklahoma at Norman, 1963.


ARRADY I. LEONOV, Professor of Polymer Engineering (1988) B.S., Moscow Institute of Chemical Engineering; M.S., Moscow Institute of Polytechnic, Ph.D., USSR Academy of Sciences; Ph.D., Kartov Physico-Chemical Research Institute, Moscow USSR, 1969.

SHARON A. LESNER, Professor of Speech-Language Pathology and Audiology; Fellow, Fellow, Institute for Life-Span Development and Gerontology; Professor of Speech-Language Pathology and Audiology (1972) B.S., M.A., Kent State University, M.A., Kent State University, Ph.D., Ohio State University, 1975.

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DALE D. LEWISON, Professor of Marketing; Department Chair of Marketing (1981) B.S., University of Wisconsin; M.S., University of Wisconsin, 1974.

HUEY LI Assistant Professor of Education (1995) B.A., National Taiwan University; M.S.Ed., Kent State University; Ph.D., University of Illinois at Urbana, 1994.

ROBERT VING-KO LIANG, Professor of Civil Engineering, Department Chair of Civil Engineering (1988) B.E., Tamkang University; M.S.C.E., North Carolina State University, Ph.D., University of California at Berkeley, 1965.


HUGO K. LIBERMAN, Professor of Modern Languages, Director of the Latin American Studies Program (1967) B.A., LaSalle University (Bolivia); LL.B., Universidad San Francisco Xavier de Chuquisaca (Bolivia); M.A., Murdoch University; Ph.D., University of Madrid (Spain), 1965.


EDWARD C. LIM, Goodyear Professor of Chemistry (June 1989) B.S., St. Procopius College, M.S., Oklahoma State University, 1999.

LUER LI, Associate Professor of Economics (1978) B.A., M.A., National Chengchi University, Ph.D., University of North Dakota, 1974.

YUEH-JAW L. LIOO, Associate Professor of Mechanical Engineering (1988) B.S., National Tsing-Hua University; M.S., Ph.D., University of Wisconsin at Chicago; C.P.A., Ohio.

LEONARD L. LING, Professor of Chemical Engineering (1991) B.S., M.S., Kent State University, Ph.D., Kent State University, 1983.

JEFFREY N. LEPER, Associate Professor of Music (1992) B.M., Indiana University; M.M., Holy Names University; M.C.E., Xavier College, Ph.D., Kent State University, 1994.


CECIL C. LO, Assistant Professor of Sociology (1986) B.A., Hong Kong Shue Yan College, M.A., Ph.D., University of Alabama, 1993.

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STEPHONY T. LOPINET, Assistant Professor of Criminal Engineering (1978) B.S., University of Notre Dame, M.S., Lehigh University; Ph.D., Massachusetts Institute of Technology, 1996.

ROBERT G. LORD, Professor of Psychology, Department Chair of Psychology Fellow, Institute for Life-Span Development and Gerontology (1940) B.A., University of Michigan at Ann Arbor, M.S., Ph.D., Carnegie Mellon University, 1979.

WILLIAM JOUSSER, Professor of Political Science, Department Chair of Political Science (1970) B.A., Mounts College, M.A., American University, M.A., University of Wisconsin, 1972.


JAMES V. LYONS, Professor of Speech-Language Pathology and Audiology; Director of the School of Speech-Language Pathology and Audiology (1980) B.S., M.A., Ph.D., University of Iowa, 1975.

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LAURENCE J. MA, Associate Professor of Geography and Planning; Coordinator of Asian Urbanization Programs (1971) B.A., National Taiwan University; M.A., Kent State University, Ph.D., University of California at Berkeley, 1965.


DEVINDER MALHOTRA, Professor of Economics; Department Chair of Economics (1979) B.A., M.A., University of Delhi; Ph.D., Kansas State University, 1979.
The University of Akron

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- Deceased

Buchtel College

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E. L. REXFORD* 1878-1880, D.D.
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IRA A. PRIEST 1897-1901, D.D.
A. B. CHURCH* 1901-1912, D.D., LL.D.
PARKER R. KOLBE* 1912-1915, Ph.D., LL.D.

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PARKER R. KOLBE* 1915-1916, Ph.D., LL.D.
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HEEZLTON E. SIMMONS*, 1933-1931, M.S.D Sc. LL.D.
WILLIAM M. VUSE 1944-1952, B.S., M.B.A., Ph.D.
MARION A. RUBIEL 1952-1962, Ph.D., Litt. D, D.C.L.
MARION A. RUBIEL 1996-1999, B.A., Ph.D.

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- Deceased

Buchtel College of Arts and Sciences

ALBERT I. SPANTON* 1913-1926, M.A., Litt. D.
CHARLES BULLER* 1926-1948, Ph.D., Litt. D.
ERNST H. CERRINGTON JR. 1944-1960, Ph.D.

ETHEL R. WHELAND, Associate Professor of Mathematical Sciences (1956) B.S., Ph.D., Pennsylvania State University, 1960.

C. L. WHITE, Professor of Polymer Engineering. Director of the Institute of Polymer Engineering; H.A. Morton Professor of Engineering (1963) B.S.Ch.E., Polytechnic Institute of Brooklyn; M.S.Ch.E., Ph.D., University of Delaware, 1965.

SYLVIA E. WHITE, Associate Professor of Communication (1990) B.A., University of Connecticut, M.A., Ph.D., Ohio State University, 1982.

MAX S. WILLIS, JR., Professor of Mathematical Engineering. Professor of Biomedical Engineering; Associate Dean for Research and Graduate Studies in the College of Engineering (1996) B.S.Ch.E., Pennsylvania State University; M.S.Ch.E., Ph.D., Iowa State University, Science and Technology, 1992.

G. EDWIN WILSON, JR., Intern Assistant Professor for Research; Professor of Chemistry (1964) B.S., Massachusetts Institute of Technology, Ph.D., University of Illinois, 1964.

N. MARGARET WINEMAN, Professor of Nursing (August, 1990) B.A., Marymount Manhattan College, M.S.N., Yale University; Ph.D., University of Rochester, 1988.

ROGER B. CREEL 1995-1997, Ph.D. (interim)

ROGER B. CREEL 1997, Ph.D.

College of Engineering

R. D. LANDLE 1946-1963, C.E., M.S.
W. M. PETRY* 1963-1964, M.S., M.E. (acting)
MICHAEL J. RASIA* 1964-1970, Ph.D.
COLEMAN J. MAJOR 1970-1973, Ph.D.
JOSEPH EMINDICK 1980-1981, Ph.D. (acting)
LOUIS A. HILL 1981-1988, Ph.D.
GEORGE W. KEPNER 1982-1967, Ph.D.
DON A. KERSTE 1967-1969, Ph.D.
JOHN BACHMANN 1969-1970, Ph.D. (acting)
ROBERT A. OETJEN 1970-1977, Ph.D.
CLAIBOURNE E. GRIFFIN* 1977-1983, Ph.D.
Randy Moore 1993-1995, Ph.D.

ROGER B. CREEL 1995-1997, Ph.D. (interim)

S. G. HILL 1997, Ph.D.

College of Education

W. J. BANKES* 1921-1931, M.A.
ALBERT I. SPANTON* 1931-1933, M.A., Litt. D. (acting)
HOWARD R. EVANS* 1933-1942, Ph.D.
HJALMER W. DISTAD* 1942-1944, Ph.D. (acting)
HOWARD R. EVANS* 1944-1958, Ph.D.
CHESTER T. McNEARY 1959-1966, Ph.D., LL.D.
H. KENNETH BARKER 1966-1965, Ph.D.
JOHN S. WADD 1965-1966, Ph.D. (acting)
CONSTANCE COOPER* 1968-1968, Ed.D
JOHN S. WADD 1968-1969, Ph.D. (acting)
RITA S. SASSAWI 1996-1996, Ph.D. (interim)
LARRY A. BRADLEY 1969-1966, Ph.D. (interim)

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The University of Akron

ROBERT J. VEILLEUX, Associate Professor of Educational Engineering (August, 1990) B.S.E.E., Virginia Polytechnic Institute and State University, M.S.E.E., Clemson University, Ph.D., University of Florida, 1990.
College of Business Administration

WARREN W. LEIGH* 1953-1962, Ph.D
RICHARD C. REIDNAGLE 1962-1972, Ph.D
ARTHUR K. BRINTALL 1967-1968, Ph.D (acting)
WILBUR EARLE BENSON* 1968-1970, Ph.D
JAMES W. DUNLAP 1970-1989, Ph.D
RUSSELL J. PETERSEN 1989-1994, Ph.D
JAMES INMAN 1994-1995, J.M. (interim)
STEPHEN F. HALLAM 1995- Ph.D

School of Law

JAMES A. SAMAD 1969-1979, J.S.D
ALBERT S. BAKAS* 1978-1981, J.D (interim)
DONALD M. JENKINS 1981-1987, J.D
ISAAC C. HUNT, JR. 1987-1993, LL.B
RICHARD AYNES 1995- J.D

Graduate School

CHARLES BULGER* 1933-1951, Ph.D, LL.D. (Dean of Graduate School)
ERNEST H. CHERINGTON, JR. 1955-1960, Ph.D. (Dean of Graduate School)
ERNEST H. CHERINGTON, JR. 1960-1967, Ph.D. (Dean of the Graduate School)
ARTHUR K. BRINTALL 1967-1968, Ph.D. (Dean of Graduate Studies and Research)
ERWIN L. LOVEY 1969-1974, Ph.D. (Dean of Graduate Studies and Research)
CLAUDINE E. GRIFFIN 1974-1977, Ph.D. (Dean of Graduate Studies and Research)
JOSEPH M. WALTON 1977-1979, Ph.D. (Associate Dean of Graduate Studies and Research)
ALAN N. GENT 1979-1980, Ph.D. (Dean of Graduate Studies and Research)
JOSEPH M. WALTON 1986-1989, Ph.D. (Acting Dean of Graduate Studies and Research)
PATRICIA L. CARRIG 1990-1993, Ph.D. (Dean of the Graduate School)
CHARLES M. DYE 1993- Ph.D. (Dean of the Graduate School)

University College (formerly General College)

THOMAS SUMMERS** 1962-1977, Ph.D
PAUL S. WINGARD 1977-1978, Ph.D (acting)
MARVIN L. RUEBEL 1978-1989, Ph.D
NANCY K. GRANT 1989-1990, Ph.D (acting)
THOMAS J. VUKOVICH 1990-1993, Ph.D (acting)
KARLA T. MUGLER 1993- Ph.D

Evening College

L. L. HOLMES 1932-1934, M.A. (director)
CHARLES W. BOYD 1977-1979, M.A. (dean)
JOHN G. HEDRICK 1979-1980, M.S. (dean)
CAESAR A. CAMINNO 1980-1985, Ph.D (Dean)

Community and Technical College

W. M. PETER 1940-1974, M.S., M.E
ROBERT C. WERICK 1974-1980, M.S
JAMES R. HASSAN 1987-1989, Ph.D
FREDERICK S. STURM 1989- Ph.D
DEBORAH S. WEBER 1996-1997, M.A. (dean)
DARYL A. SMITH 1996- Ph.D

College of Fine and Applied Arts

RAY H. SANDEFUR* 1947-1976, Ph.D
GERARD L. KINETHER 1978-1980, Ph.D
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DONALD E. HALL 1991-1992, Ph.D (acting)
LINDA L. WOORE 1991-1996, Ph.D
MARK S. AUBURN 1996- Ph.D (acting)

College of Nursing

ESTELLE B. NAES 1967-1975, Ph.D
LILIAN J. DEYOUNG 1975-1986, Ph.D
ELIZABETH J. MARTIN 1986-1992, Ph.D
V. RUTH GRAY 1992- Ph.D
JANNE R. DUNHAM-TAYLOR 1993-1996, Ph.D (interim)
CYNTHIA CAPERS 1997- Ph.D

Wayne College

MARVIN E. PHILLIPS 1972-1974, M.A. (acting director)
JOHN G. HEDRICK 1974-1978, M.A. (director)
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