Calendar 2006-2007

Fall Semester 2006
Day and evening classes begin Mon., Aug. 28
*Labor Day (day and evening) Mon., Sept. 4
Spring 2007 advancement to candidacy due Fri., Sept. 15
Veterans Day (classes held; staff holiday) Fri., Nov. 10
**Thanksgiving Break Thu.-Sun., Nov. 23-26
Classes resume Mon., Nov. 27
Final instructional day Sat., Dec. 9
Final examination period Mon.-Sat., Dec. 11-16
Commencement Sat., Dec. 16
Winter Intersession Sat.-Sat., Dec. 23-Jan. 13

Spring Semester 2007
Spring 2007 graduation applications due Wed., Jan. 3
*Martin Luther King Day Mon., Jan. 15
Day and evening classes begin Tue., Jan. 16
Summer 2007 advancement to candidacy due Thu., Feb. 15
**Presidents’ Day Tue., Feb. 20
Classes resume Mon., Mar. 26
Summer 2007 graduation applications due Thu., May 3
Final instructional day Sat., May 5
Final examination period Mon.-Sat., May 7-12
Commencements Sat.-Sun., May 12-13
Commencement for School of Law Sun., May 20

Summer Sessions I and II 2007
First 5- and 8-week Sessions begin Mon., May 21
10-week Session begins Mon., May 21
Fall 2007 advancement to candidacy due Tue., May 15
*Memorial Day Mon., May 28
First 5-week Session ends Sat., Jun. 23
Second 5- & 8-week Sessions begin Mon., Jun. 25
*Independence Day Wed., Jul. 4
First 8-week Session ends Sat., Jul. 14
10-week Session ends Sat., Jul. 28
Second 5-week Session ends Sat., Jul. 28
Second 8-week Session ends Sat., Aug. 18
Summer Commencement Sat., Aug. 25

*Classes cancelled (day and evening)
**Classes cancelled from Wednesday at 5 p.m. through Monday at 6:45 a.m.


Inquiries
Address inquiries concerning:
Graduate study to the Graduate School, The University of Akron, Akron, OH 44325-2101. 330-972-7663.
Athletics to the Athletic Director, The University of Akron, OH 44325-5201. 330-972-7080.
Registration, scheduling, residency requirements, and veteran’s affairs to the Office of the Registrar, The University of Akron, OH 44325-6208. 330-972-6300.
Undergraduate admissions information, campus tours, housing, and transfer of credits to the Office of Admissions, The University of Akron, OH 44325-2001. 330-972-7077 or toll-free inside Ohio, 1-800-655-4884. The University switchboard number is 330-972-7111.

University Closing Policy
The president, or designee, upon the recommendation of the Director Environmental Health and Occupational Safety, 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 Chief of Police will promptly notify other designated University officials and members of the Department of Institutional Marketing, 330-972-7820, who will contact area media. University colleges/departments/schools are encouraged to establish a method for communicating the closing decision to departmental personnel. Closing information will be announced as early and as simply as possible to avoid confusion.
Cancellation of classes and closure announcements will be made as early as possible in the day and will clearly state the affected campus(es). Call 330-972-SNOW or 330-972-6238 (TDD/Voice) 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.

The Graduate Bulletin is a supplement to The University of Akron Undergraduate Bulletin. The Undergraduate Bulletin contains information on undergraduate degree programs, non-degree continuing education programs, and additional information on the policies of The University of Akron.
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.
General Campus Information Center 330-972-INFO (4636)

Graduate School
Vice President for Research, & Dean, Graduate School
Dr. George R. Newkome ........................................... 972-6458
Associate Dean, Graduate School
Dr. Mark B. Tausig .................................................. 972-7664
Assistant to the Vice President for Research & Dean, Graduate School
Mrs. Dolli Quattroccoli Gold .................................... 972-6737
Senior Executive Administrative Assistant
Mrs. Cynthia S. Angerstien ...................................... 972-6458
Administrative Assistant Senior
Ms. Heather A. Blake ............................................. 972-7664
Examiner Associate
Ms. Nancy J. Blewitt ............................................. 972-7663
Coordinator, Graduate Student Financial Aid
Mrs. Karen L. Caldwell .......................................... 972-6310
Director, McNair Scholars Program
Billi F. Copeland .................................................... 972-2135
Student Services Counselor
Ms. Jessica N. Fritz ................................................ 972-5169
Student Services Counselor
Miss Brenda J. Henry ............................................. 972-7665
Coordinator, Graduate Admissions
Ms. Theresa M. McCune ........................................ 972-6405

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

Colleges
Buchtel College of Arts and Sciences .................. 972-7880
Summit College .................................................... 972-7220
College of Business Administration .................. 972-7040
College of Education ........................................... 972-6970
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
Accessibility, Office of ......................................... 972-7928
TTY/TDD .......................................................... 972-5764
Buchtelite, The (student newspaper) ............... 972-7919
Careers Program, Arts and Sciences ................ 972-5714
Center for Child Development ............................ 972-8210

Cooperative Education Programs ..................... 972-7747
Counseling, Testing, and Career Center
Counseling ....................................................... 972-7082
Testing .......................................................... 972-7084
English Language Institute ................................. 972-7544
Financial Aid, Office of Student ......................... 972-7032
Scholarships (non-University) ......................... 972-6368
Scholarships (University) ................................. 972-6343
Student Employment .......................................... 972-7405
Student Volunteer Program ............................... 972-6841
Work Study ..................................................... 972-8074
Health Services, Student ................................. 972-7808
Information Centers
Student Union .................................................. 972-INFO (4636)
Polsky’s High Street Info Center ..................... 972-3531
Polsky’s Main Street Info Center .................... 972-3532
International Programs ................................. 972-6349
Academic Advising ........................................... 972-6194
Immigration ..................................................... 972-6740
International Admissions ................................. 972-6934
Libraries, University
Bierce Library .................................................... 972-7236 or 972-7497
Law Library ....................................................... 972-7330
Photocopying, Bierce Library ......................... 972-6278
Science and Technology Library ..................... 972-7195
University Archives .......................................... 972-7670
Multicultural Development, Office of ............. 972-7658
Academic Support Services/Access and Retention .... 972-6769
Pan-African Culture and Research Center ......... 972-7030
Parking Services ............................................... 972-7213
Peer Counseling Program ................................. 972-8288
 Photocopying
 Bierce Library .................................................... 972-6278
 DocuZip (Student Union) ....................................... 972-7870
 Polsky’s Center ................................................ 972-2043
 Registrar, Office of the University .................. 972-8300
 Graduation Office ............................................. 972-8300
 Records and Transcripts .................................... 972-8300
 Residence Life and Housing ......................... 972-7800
 Student Affairs, Vice President for ................. 972-7907
 Special Services for Students ......................... 972-6048
 Student Conduct .............................................. 972-7021
 Student Union
 Director’s Office ............................................... 972-7866
 Information Center ............................................ 972-INFO (4636)
 Study Abroad ..................................................... 972-7668
 Ticketmaster ..................................................... 972-7077
 Tours (of the University) ................................. 972-7043
 University Program Board ............................... 972-7014
 Veterans Affairs Coordinator and Counselor ....... 972-7838
 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)
SECTION 1. Background

HISTORY

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

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

Changes within the Municipal University’s curriculum reflected the strong interrelationship of town and gown. In 1914 a College of Engineering began instruction, and other professional schools followed: Education (1921), Business Administration (1953), Law (1959), Community and Technical College (now Summit College) (1964), Fine and Applied Arts (1967), and Nursing (1967).

Considering the institution’s location in the heart of a burgeoning rubber industry, it seemed only appropriate that the world’s first courses in rubber chemistry would be offered at Buchtel College, in 1909. From those first classes in Professor Charles W. Knight’s laboratory would evolve the world’s first College of Polymer Science and Polymer Engineering (1988). During World War II, University of Akron researchers helped fill a critical need in the U.S. war effort by contributing to the development of synthetic rubber. The University’s polymer programs have produced some of the world’s most able scientists and engineers, and today attracts millions of dollars annually in research support, as well as top graduate students from around the world.

Research, innovation, and creativity actively take many forms at the University — in the sciences, and in the arts and humanities. Today, University faculty study ways of matching workers with jobs to maximize performance; develop new ways to synthesize fuel; write and produce plays, write poetry; choreograph dance works; explore improved methods of tumor detection; evaluate water quality in northeast Ohio; provide speech and hearing therapy to hundreds of clients; aid the free enterprise system by sharing the latest in business practices with new and established companies alike; provide health care in community clinics; and study political campaign financing and reform. Faculty are awarded patents each year for their work on new technologies and products. The University of Akron’s continuing and central commitment to the liberal arts is signified by the perpetuation of the institution’s original name in the Buchtel College of Arts and Sciences.

The University has a long tradition of serving the needs of part-time and full-time students through day and evening classes, and it attracts traditional and nontraditional students of all economic, social, and ethnic backgrounds. Committed to a diverse campus population, the University is at the forefront of all Ohio universities in recruiting and retaining students of diverse backgrounds.

The University’s first doctoral degree was, appropriately enough, awarded in polymer chemistry in 1959, but master’s degrees were granted as early as 1882. The University of Akron has 19 doctoral degree programs and four law degree programs as well as more than 100 master’s degree programs and options.

In 1963 the receipt of state tax monies made the University a state-assisted municipal university, and on July 1, 1967. The University of Akron officially became a state university. Today, more than 23,000 students from 44 states and 76 countries are enrolled in its 10 degree-granting units. The University of Akron is the public research university for Northern Ohio. It is the only public university in Ohio with a science and engineering program ranked in the top five nationally by U.S. News & World Report. Its College of Polymer Science and Polymer Engineering also is the nation’s largest academic polymer program. The University excels in many other areas, including global business and international management, management information systems, computer science, psychology, education, fine arts, sociology, marketing, dance, intellectual property law and nursing. Alumni of the University number more than 133,000 and include scientists, engineers, artists, lawyers, educators, nurses, writers, business people, and other professionals at work in every state and throughout the world.

The 218-acre Akron campus, with 81 buildings, is within walking distance of downtown Akron and is located in a metropolitan area of 2.8 million people. The University’s presence in Northeast Ohio provides numerous opportunities in recreation, major college, amateur, and professional sports, concerts, cultural events, and commerce, all within easy driving distance and many accessible via public transportation. Arts venues on campus include Daum and Sanderfer theaters, Guggey Recital Hall, the Emily Davis Gallery, and E.J. Thomas Performing Arts Hall, the flagship performance venue for the region. The critically acclaimed Akron Symphony Orchestra, Tuesday Musical, UA Steel Drum Band and Ohio Ballet — the latter two in-residence on campus — perform at Thomas Hall. The University joined the Mid-American Conference in 1991 and participates on the NCAA Divison I level in 18 sports.

In 2004, The University of Akron completed the first phase of a campus enhancement program, dubbed “New Landscape for Learning,” that added 30 acres of green space and nine new buildings, including a Student Recreation and Wellness Center, Student Union, Honors Complex, classroom buildings and parking decks. This transformation continues today with construction of a 15th residence hall and an addition to the Fine and Applied Arts building.

For more than 136 years, The University of Akron has been an active participant in Akron’s renaissance of commercial and artistic endeavor, a leader in the metropolitan area’s intellectual and professional advancement, a center for internationally lauded research efforts and a source of enrichment, education, and vitality for Northeast Ohio. Our history is a long and proud one — yet 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 metropolitan institution, strives to develop enlightened members of society. It offers comprehensive programs of instruction from associate 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.

CHARTING THE COURSE

Today, the University stands on the threshold of a fundamental shift in thinking and a sweeping recommitment of institutional talents, energies and resources toward attaining even greater excellence. The blueprint for change is “Charting the Course,” an ongoing and dynamic process of strategic thinking that begins with the University’s fundamental strategies and builds to where the institution envisions itself in the future.

Objective and documented excellence tells us that The University of Akron is already the leading public university in northern Ohio and signals a clear promise and destiny. We have framed our vision as a Statement of Strategic Intent:

The University of Akron intends to be recognized as the public research university for Northern Ohio.

That recognition will be gained by building upon the documented excellence that has enabled the University to achieve its current high level of achievement, and by strategic investments, partnerships, and initiatives.

The University will continue to build a leadership position in information technology — to better prepare our students for today’s technologically advanced knowledge economy, to make learning more accessible and dynamic, and to increase the effectiveness of the University’s planning and operations.

We will attain technological and programmatic excellence throughout the University by taking full advantage of our metropolitan setting and long-standing relationships with area business and industry. We will act decisively to form and optimize strategic partnerships that will benefit our students and our community.

Enabling student success will continue to be the hallmark of The University of Akron. We recognize, importantly, that students are the responsibility of all of us at the University. We will work to strategically shape and determine the quality, diversity and size of our student body. And, we will strive to offer students the chance to apply what they are learning in the classroom through hands-on research, service, internships, cooperative education or similar opportunities.

Student success is our number one priority.

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 will respect the needs of students, faculty, contract professionals, staff, admin-
istrators, maintenance and service personnel, and everyone else whose work and dedication enables 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, celebrating the uniqueness of the individual and developing our understanding and tolerance of differences in gender, ethnicity, age, spiritual belief, sexual orientation, and physical or mental potential. We take responsibility for sustaining a caring culture, nurturing growth and fulfillment in one another and in the larger communities of which we are a part. We insist on a culture of civility, united in our rejection of violence, coercion, deceit, or terrorism. We work to increase collaboration, cooperation, and consensus within rational 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 his/her responsibility in maintaining our culture.

Inside the Classroom

Inside the classroom, faculty are expected to respect the sanctity of the teaching/learning process by honoring their commitment to students in terms of time, fairness, and enthusiasm. It is the responsibility of faculty to set and enforce the classroom rules of conduct. Faculty members are expected to treat men and women, persons of all colors and ethnicities, and persons with varying abilities, spiritual preference, or sexual orientation with equitable respect and consideration. Faculty should value and pursue excellence in teaching as well as research. Faculty shall not engage in sexual or other forms of harassment or engage in inappropriate dual relationships with students. Faculty must not tolerate academic dishonesty 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 member as the organizer and guide through this learning experience, as well as for fellow students. Disruptive, disrespectful, discriminatory, harassing, violent and/or threatening behavior is explicitly prohibited. Academic dishonesty will not be tolerated. Students are expected to take responsibility for their own learning and, in return, can expect responsible teaching from the faculty member. Students should report unprofessional behavior on the part of faculty members. Students have a right to expect that they will not be sexually 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 cannot be attained, proper authorities must be involved to insist upon these minimum expectations. Only by campus-wide compliance to these expectations can we achieve a clear sense of our campus culture and, accordingly, a sense of mutual pride.

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

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

Additional Behavioral Expectations

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

ACCREDITATION

Accreditation assures that degrees are recognized and approved by select regional and national education associations, societies and councils. Accreditation serves two fundamental purposes: quality assurance and institutional and program improvement. There are two types of accreditation of educational institutions: institutional accreditation and specialized accreditation. Institutional accreditation evaluates the entire institution and accredits it as a whole. The University of Akron has been approved by The Higher Learning Commission of The North Central Association of Colleges and Schools (30 North La Salle Street, Suite 2400 Chicago, IL 60602 1-800-621-7408 since 1914 and has been reaccredited at the highest level as a comprehensive doctoral degree-granting institution.

Institutional accreditation is separate from the accreditation given by professional associations or organizations. Specialized accreditation evaluates particular units, schools or programs within an institution and is often associated with national professional associations or with specific disciplines.

Accreditation 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.

Institutional Accreditation:
The Higher Learning Commission of The North Central Association of Colleges and Schools

Specialized Accreditations:

American Association of Community Colleges
American Association of Public Administrators
American Council on Education
American Council on His- tory
American Council on Prac- tical Nursing
American Council on State Colleges and Universities
American Psychological Association
American Speech-Language-Hearing Association
Association of Collegiate Business Schools and Programs
Commission on Collegiate Nursing Education
Committee on Allied Health Education and Accreditation of American Medical Association
Council for the Accreditation of Counseling and Related Educational Programs (provisional)
Council on Social Work Education
Foundation for Interior Design Education Research
International Fire Service Accreditation Congress
National Association of Education for Young Children
National Association of School Nurses
National Association of Schools of Art and Design
National Association of Schools of Dance
National Association of Schools of Drama
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration (NASPA)
National Athletic Training Association
National Certification Board of Pediatric Nurse Practitioners and Nurses
National Council for Accreditation of Teacher Education
National League of Nursing Accrediting Commission
Ohio Department of Education
Professional Society for Sales & Marketing Training (SMT)

The School of Law is accredited by or holds membership in the following:

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

The University also holds membership in the following educational organizations:

American Association of Colleges for Teacher Education
American Association of Colleges of Nursing
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
Council of Graduate Schools
Department of Baccalaureate and Higher Degree Programs (National League for Nursing)
International Council on Education for Teaching (associate)
Midwestern Association of Graduate Schools
National Association of Graduate Admission Professionals
National Association of State Universities and Land-Grant Universities
North American Association of Summer Sessions
Ohio College Association
Ohio Continuing Education Association
United States Association of Evening Students
University Council on Education for Public Responsibility
University Continuing Education Association
University Sales Center Alliance (USCA)

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

Background Information 5
The Campus

Currently, the Akron campus covers 218 acres and encompasses 81 buildings. Recent and continued growth with new academic, administrative, and recreational spaces, in addition to major renovations to existing buildings, are attributable to the current Master Plan, "A New Landscape for Learning."

LOCATION

The University is situated in a large metropolitan area. The campus, although centrally located within the City of Akron, features park-like pedestrian areas. Students have easy access to retail outlets, transportation, and churches. The University is located between East Market Street and East Exchange Street on the eastside of the downtown area. Akron is easily reached by automobile from major national east-west (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. For airline passengers, limousine service is available from the Cleveland Hopkins International Airport located to the north and Akron-Canton Regional Airport located to the south.

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:

Akron Polymer Training Center. The Akron Polymer Training Center at 225 East Mill Street is an instructional classroom and laboratory facility for Polymer Engineering and Science Technology Polymer Science classes.

Arts & Sciences Building. Located at 290 E. Buchtel, the College of Arts & Sciences Building is occupied by the Dean of the Buchtel College of Arts & Sciences, Computer Science, Economics, Geography and Planning, History, Mathematics, Statistics, Psychology, and 16 classrooms.

Athletic Field House. The newly constructed building is adjacent to the new Student Recreation Center and the Ocasek Natatorium and is one of the best indoor facilities in the nation. The field house features a full 120-yard Astro Play field, 300 meter six-lane Mono Track, 1,500 square foot strength and condition center, batting cages, indoor golf training facility, locker rooms, sports medicine and rehabilitation center and spectator seating for 1,200.

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 complex houses the College of Engineering Dean's office, the Engineering Co-op Office, Mechanical, Electrical, Chemical, and Civil Engineering; as well as the Department of Biology and Biology Research Facility.

Ayer Hall. Named for the first dean of the College of Engineering, Frederic E. Ayer, Ayer Hall provides classrooms and offices for the department of Physics.

Ballet Center. This center, located at 384 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 Lucas 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.

Buchtel Hall. Originated in 1897, this structure was destroyed by fire in 1899 and rebuilt in 1901 (Buchtel Hall II). The administrative center of campus, Buchtel Hall was completely restored in 1973 following a devastating fire in 1971. It is the University's link with its predecessor, Buchtel College. It provides office space for numerous administrative offices of the University.

Buckingham Center. Located at 220 Wolf Ledges Parkway in the renovated Union Depot Building, this building houses the offices of the Associate Provost, Multicultural Development, Office of Multicultural Development, Black Cultural Center, Academic Achievement Programs, classrooms and a repository of African-American history.

Business Administration Building. This facility, located at 295 South Broadway, houses offices of the Controller, laboratories, and administrative offices for the dean of the College of Business Administration, the George W. Daveno School of Accountancy, and the departments of Finance, Marketing, and Management.

Carroll Hall. This facility houses the Faculty Senate and Adult Focus in addition to classrooms, laboratories, and offices for departments of Counseling and Developmental Programs.

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

Computer Center. This building at 185 Carroll Street houses the University's Information Services offices, main computers, and workrooms.

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

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

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

Mary E. Gladwin Hall. Housing the College of Nursing and biology laboratories, this building was named 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, the Office of the Dean, 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. This building, located at 170 University Avenue, houses offices for the dean of the College of Polymer Science and Polymer Engineering, the Vice President of Research and the Graduate School of Technology. The facility features a 200-seat lecture hall, offices, classrooms, and research laboratories for the Institute and Department of Polymer Science.

Guzzetta Hall. 157 University Avenue, Guzzetta Hall is occupied by the Dean of the College of Fine and Applied Arts and the Department for the School of Dance, Theatre, and Arts Administration, Firestone Conservatory, and the School of Music in addition to student practice rooms, an experimental theatre, and 300-seat recital hall.

James A. Rhodes Health and Physical Education Building (JAR). This structure on Buchtel Common is connected to Memorial Hall by a pedestrian bridge over South Union Street and contains an intercollegiate basketball and volleyball arena, gymnasium for 5,500. The facility also serves as a concourse for the event venue, and houses an indoor walking/ jogging track, physical education laboratories, classrooms, meeting rooms, department of intercollegiate offices, locker rooms, a sports medicine room, 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.

Knight Chemical Laboratory. This $10 million complex is named in honor of Dr. Charles M. Knight, who taught the first courses in rubber chemistry at Buchtel College as early as 1909. Opened in 1979, the building houses the Department of Chemistry and features many innovative laboratories with the most sophisticated safety equipment, as well as classrooms and faculty and administrative offices.

Kolbe Hall. Named for the first president of the Municipal University of Akron, this building 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, WZIP-FM radio station, computer labs and classrooms. The building also houses the Paul A. Duham Theatre.

Leigh Hall. Located at 308 Buchtel Common, Leigh Hall is named in honor of Warren W. Leigh, first dean of the College of Business Administration. This newly renovated building is occupied by the Distance Education Center, Institute for Teaching and Learning, Center for Collaboration and Inquiry in addition to The John S. Knight Auditorium.

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 banquet center. The table service restaurant is open for lunch between 11:30 a.m. and 2 p.m. Business and departmental functions, banquets, receptions, and parties can be scheduled during the hours of 7:30 a.m. to noon. The office of the Department of Development is located on the upper floors of the building.

McDowell Law Center. Named for C. Blake McDowell, prominent local attorney, alumnus, and benefactor of the University, the center houses the School of Law. Opened in 1973 at a cost of $25.5 million, it provides space for the law library, classrooms, moot courtroom, appellate-review office, seminar rooms, and faculty offices. A $2.8 million addition provides library and support space, and a $1.5 million second expansion has linked McDowell Law Center to West Hall, providing additional administration office space. The law complex stands at the corner of University Avenue and Wolf Ledges Parkway.

Memorial Hall. Dedicated to the memory of Summit County men and women who died in World War II, this is the companion building to the JAR. It contains offices of the Health and Wellness Education Center, a gym, a gymnasium area, a combatives area, a motor learning lab, a human performance lab, an athletic training lab for sports medicine, a weight training and fitness center, an athletics batting cage, the intramurals sports office, and classrooms.

Ocasek Natatorium. The natatorium houses an Olympic-size swimming pool with adjacent spectator seating area, and locker rooms and showers. The center also houses eight racquetball courts as well as weight room facilities. The natatorium is named for former Ohio State Senator Oliver Ocasek.

Olin Hall. Named in honor of Professor Oscar E. Olin and Mr. Charles Olin, this facility houses the following departments and institutes: Arts & Sciences Careers Program, Ray C. Bliss Institute of Applied Politics, Philosophy, English Language Institute, Sociology, Political Science, English, Modern Languages, Classical Studies, Anthropology, and Archaeology.

Olson Research Center. This facility, adjacent to the new Polymer Engineering Academic Center on Forge Street, houses the Department and Institute of Biomedical Engineering and the Department and Institute of Polymer Engineering.
Physical Facilities Operations Center. This building, located at 146 Hill Street, houses physical facilities offices, craft shops, the central heating and cooling distribution center, and the Campus Police/Security Department.

The Polsky Building. The largest academic building in Ohio, this renovated downtown department store is home to the Graduate School. Also located here are the University Archives, the Archives of the History of American Psychology, the School of Speech-Language Pathology and Audiology and its Audiology and Speech Center, the Department of Public Administration and Urban Studies, the School of Social Work, the Continuing Education Office, the Office of International Programs, the Associate Vice President for Research and Technology Transfer, including the Office of Research Services and Sponsored Programs, the Institute for Policy Studies offices, the Center for Health and Social Policy, and Taylor Institute for Direct Marketing. A University food service facility and a campus bookstore are in operation on the High Street level (third floor).

Polymer Engineering Academic Center. The newly constructed 31,900 sq. ft. addition to the Center houses Polymer Research, facilities, faculty, and graduate student offices, the Rubber Division offices of the American Chemical Society, classroom space and a 134-seat lecture hall.

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

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

Schrank Hall. Named for Harry P. Schrank, longtime member and chairman of UA’s Board of Trustees, this complex, which adjoins Auburn Science and Engineering Center, is composed of two academic structures and a parking deck. Schrank Hall North contains space for the Counseling, Testing, and Career Center (including placement services), some Civil Engineering Mechanical Engineering faculty offices and research space, a College of Engineering minority students study area, the Biology lab and Learning Resource Center, and general purpose classroom space. Schrank Hall South provides facilities for the School of Family and Consumer Sciences.

Simmons Hall. This building, located at 277 East Buchtel Avenue, is occupied by departments of Student Affairs, University College, and Business and Finance. Major services provided in this building are Undergraduate Admissions, Center for Career Management, Student Financial Aid, Office of the Registrar, University College, New Student Orientation, and Business and Finance (Student Financials). Stitzlein Alumni Association Center. Named for Harry P. and Rainey G. Stitzlein, this recently remodeled building, north of East Buchtel Avenue at Fril Hill, houses the Office of The Alumni Association.

Student Recreation and Wellness Center. This facility, located at 382 Carroll Street, houses facilities and services for student recreation and wellness as well as the Intramural Sports Office. Amenities include a leisure pool, 30-person spa, 1/10 walking/jogging track, 15,000 square feet of cardiovascular and strength training equipment, five functional gymnasia, two group exercise studios, 52 foot climbing wall, bouldering cave, and the Climbing Rock Café.

Student Union. The Student Union, 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 facility houses various food service facilities, meeting rooms, a movie theater, Computer Solutions--The University of Akron’s computer technology store, the DocU copy center, a bank, TakeOuts/FastFood Center, the Information Center and a bookstore. Visit our website at http://www.uakron.edu/studentunion.

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

Whitby Hall. Located at 200 Buchtel Common, Whitby Hall is named in honor of G. Stanford Whitby, a pioneer in the development of polymer science. This building is occupied by the Department of Chemical Engineering, faculty offices, research labs, and a computer lab classroom.

Zook Hall. Named to honor George F. Zook, president of the University from 1925 to 1933, this Buchtel Common facility houses the College of Education offices of the Dean, Associate Dean for Academic Affairs, Assistant Dean for Student Affairs, and administration of all departments. Other facilities include a lecture room that seats 245, general classrooms, a science and mathematics classroom/ laboratory, a distance learning classroom, a Center for Literacy, two technology-enhanced demonstration classrooms, two computer/teaching classrooms, and a multi-media laboratory.

FACILITIES AND EQUIPMENT

The University’s addition of modern teaching aids demonstrates its recognition of the need in this technological age, for up-to-date facilities and equipment. Many of these facilities are described below.

Buchtel College of Arts and Sciences

The Department of Biology houses greenhouses, controlled-environment chambers, a new animal research facility, a molecular biology research center, modern laboratories, and equipment that includes advanced light microscopes (differential interference contrast, fluorescence), electron microscopes (scanning and transmission), scintillation counters, ultracentrifuges, DNA sequencing apparatus, and physiographs; vehicles and boats and a 400-acre nature preserve are available for fieldwork. Many biology courses use the department’s student computer lab for review of multimedia presentations, data analysis, simulations, Internet and Web assignments, teleconferencing, scanning, word-processing, and printing.

The Department of Chemistry is located in the Knight Chemical Laboratory building. The department is home to state-of-the-art facilities for the spectroscopic identification and characterization compounds. These include the centers for Laser spectroscopy, Mass spectrometry, Nuclear Magnetic Resonance spectroscopy, and X-ray crystallography. Students have access to the department’s computer lab for internet and Web assignments, data analysis, computations, word-processing, and printing. The Chemical Stores facility maintain an inventory of more than 1,100 items, including chemicals, glassware, and apparatus. Additional information about the Department of Chemistry can be found on the department website located at www.chemistry.uakron.edu.

The Department of Classical Studies, Anthropology and Archaeology has a Macintosh-based computer lab which gives easy student access to a collection of several thousand original digital images of ancient Mediterranean buildings, artifacts and art-works, to the Perseus project, a digital multimedia database on the Greek world (20,000 images and most of Greek literature both in Greek and in translation), and to the Internet and the Web. The lab includes an extensive suite of graphics software, three dual-monitor authoring workstations as well as desktop machines, flatbed and film scanners, and an accelerated 100 base-T local network connected to the University backbone. Digital investigation and creation are a key part of most classes. The Interdisciplinary Anthropology Program laboratories contain hominid fossil casts, archeological collections, and a variety of equipment used in field research projects as well as computers for use with faculty and student projects using GIS and qualitative analyses. The Anthropology Program is affiliated with the Institute for Health and Social Policy. The Anthropology website is www.uakron.edu/anthro. It contains current course listings, the “Notes from the Field” Newsletter and information on research.

The Department of Computer Science is located on the second floor of the College of Arts and Sciences Building. Students in Computer Science have access to a variety of software including operating systems, utilities, and software in laboratories maintained in and by the department. In addition to a PC lab, a UNIX lab and a Graduate Research lab, the department has a 24-node cluster computer available for research and instruction. Our facilities are state-of-the-art and provide a broad range of experience that is attractive to potential employers. Department resources provide access to the Internet, the World Wide Web, and the computational resources of the Ohio Supercomputing Center in Columbus. In addition, there are connections to the VBNs Internet II network. Many department computer users make extensive use of the University dial-up lines or the Internet. The proximity of the faculty offices to the computer laboratories encourages regular interaction between students and faculty. Staff members are always available to help students.

A friendly, informal, helpful atmosphere makes the department an enjoyable place to learn and gain practical experience.

The Department of Economics is housed on the fourth floor of the College of Arts and Sciences Building in a modern office complex with space for faculty and graduate students. Economics as a discipline has become increasingly analytic. In keeping with this trend, the department recently opened a new computer laboratory for faculty and students. The lab is equipped with the latest equipment, run-ning in a Windows environment. In addition, the lab has a variety of software, including economic tutorials, word processing programs and SAS. The lab is also equipped with laser printers. Network access allows students to search for books, journal articles, the latest economic data, etc., remotely from either OhioLink or the World Wide Web. The lab is located in close proximity to the faculty offices which facilitates interactions between faculty and students, and enhances the students’ educational experiences.

The Department of English has a state-of-the-art Computer Classroom. The department faculty includes editors of the journals Composition Forum, Journal of Teaching Academic Survival Skills, Seventeenth Century News, and The Social History of Alcohol and Drugs. Additional information about the department, the faculty, and the programs is available on the department website at www.uakron.edu/english.

The Department of Geography and Planning has an instructional computer lab and specialized labs for research and production work in cartography, geographic information systems (GIS), remote sensing, and soils analysis. These labs have a variety of cartographic, GIS, remote sensing, database, spreadsheet and statistical analysis software as well as digitizers, scanners, printers and plotters. The department also houses a diverse collection of maps, aerial photographs and satellite images.

The Department of Geology and Environmental Science has modern instrumentation for field and laboratory studies which includes an automated electron microprobe, automated X-ray diffraction system, ion-coupled plasma spectrome-ter, inductively coupled plasma emission spectrometer, mass spectrometer, organic and inorganic carbon analyzers, oxygen bomb calorimeter, gravimeter, resistivity gear, refraction seismography, magnetometers, image analyzer, cathodoluminescope, microcomputer laboratory with printers, and video digitizers, wide carriage network plotter, flat bed scanner, 15-passenger van, microcomputer research laboratory, rock saws, automated thin-section equipment, portable rock core, Giddings soil probe, a four-wheel-drive vehicle, and two 15-passenger vans. Data analysis and presentation preparation are supported by a variety of modern computers, printers, and plotters.
The Department of History occupies one wing on the second floor of the College of Arts and Sciences Building. This office complex includes a multi-media room for web-based computer work in close proximity to faculty offices, enhancing students-faculty interaction. The endowed interdisciplinary Sally A. Miller Humanities Center is located within this department and sponsors speakers, and runs pedagogical workshops. The online Journal of Northeast Ohio History, which offers both editorial experience and opportunities of scholarly publication, has its office in the department. The History suite contains three separate seminar rooms, where graduate students work closely with faculty. More information about the department can be found on its website: www3.uakron.edu/history.

The Department of Modern Languages has a Language Resource Center in Olin Hall. The Language Resource Center contains facilities for students to listen to audiotapes and view videotapes as a class or individually. Fourteen networked multimedia computers have software for additional language practice and foreign language word processing. Access to the World Wide Web provides students with the opportunity to both read and listen to up-to-date news and cultural information in foreign languages. Magazines and dictionaries are also available for student use. Additional information about the department and its programs is available on the Internet at www.math.uakron.edu/modlang.

The Department of Philosophy is located on the second floor of Olin Hall. It houses a small computer lab and a private library for philosophy students. Brief biographies and pictures of each faculty member in the department can be found on the University website at www.uakron.edu/philosophy.

The Department of Physics is located on the first three floors of Ayer Hall. Facilities include research laboratories used for faculty and student research projects, laboratories for experiments associated with coursework and several microcomputer labs used for undergraduate and graduate student use. Most of the department’s computers are networked. The department has an e-mail system and a web page (www.physics.uakron.edu) for use by the faculty and physics students. Many instructors use this system to distribute course materials and entertain questions and feedback from students. The smallness of the department provides ample opportunity for interaction among faculty and students. The department’s computer classrooms are equipped with state-of-the-art audio-visual systems and computer projection equipment to facilitate multi-media teaching. The department also uses computer classroom software and maintains an instructional computer lab in Olin Hall. This lab contains state-of-the-art audio-visual equipment and provides students with an opportunity to learn and experience effective teaching and learning strategies in an attractive and hospitable environment.

The Department of Political Science maintains an instructional computer laboratory consisting of 16 computers. The laboratory is used by Political Science students assigned research tasks requiring improved computer and Internet skills.

The Department of Psychology is located on the third floor of the College of Arts and Sciences Building. The department maintains computer classrooms that are available for graduate students in Psychology. All labs have access to the Internet. Supported throughout the labs are statistical packages which include SAS, SPSS, MPlus, and SurveyPro. WordPerfect and MS Word are available throughout the department for word processing. A full-time research programmer/analyst provides hardware and software support for the department and writes custom software for computerized research. In addition to the computer labs, a counseling clinic is maintained by the department and has videotaping capabilities for the study of counseling processes and outcomes. Also, the department’s Center for Organization Research and Engineering (CORE) researches and designs computerized organizational communication systems providing applied research experience for students. Additional facilities of the Psychology Department include: research areas for individual computer research and for small group behavior research, and a Test Room where current psychological testing materials are administered. All information about the department, its faculty, and its programs, is available on the Internet at http://www.uakron.edu/psychology.

The Department of Public Administration and Urban Studies is appropriately located on Main Street in downtown Akron in the Polsky Building. The office suite includes a computer laboratory that is available exclusively for graduate students. The lab has twenty computers and computer projection equipment to facilitate web-enhanced course offerings. Each computer has SPSS X, SAS, and other statistical packages. Research design, methods, and computer applications classes are taught in the lab. In 2002, the department co-sponsored the creation of the Center for Public Sector Research and Training in the Institute of Health and Social Policy (a more detailed description of the Center is found in this bulletin). The Center is the locus for public service outreach and community engagement for the University. Much of the public and non-profit sector research and grant activity of the department faculty is supported through the Center.

The Department of Sociology facilitates research laboratories used for funded research projects. The Newmeyer Library, providing many current professional journals, is open for students’ use. The Department also maintains a Resource Center for Health and Social Policy. Additional information about the department can be found at http://www.uakron.edu/sociology.

The Department of Statistics maintains two instructional computer labs. One of these labs is used for class laboratory sessions for the general education mathematics requirement course, Basic Statistics, and is located in the College of Arts and Sciences Building, Room 108. The other lab, located in the College of Arts and Sciences, Room 109, is being used for various undergraduate and graduate statistics courses. The Center for Statistical Consulting, housed in the department and maintained by the Buchtel College of Arts and Sciences, provides opportunities for students to gain valuable experience in the practical applications of statistics while interacting with faculty and clients.

The Department of Theoretical and Applied Mathematics is located on the second floor of the College of Arts and Sciences Building. It provides students in mathematics and applied mathematics with a wide variety of computing facilities, operating environments, programming languages, and software. These facilities are being constantly upgraded to maintain currency in a rapidly changing field. Most computers in the department also provide Internet access to encourage students and faculty to keep current and offer subjects of interest. Access to the facilities at the Ohio Supercomputing Center in Columbus, Ohio is also available for students involved in research. The department homepage at www.math.uakron.edu provides updated information about the department, its facilities, faculty, and programs. The proximity of the faculty offices to the computer laboratories encourages regular interaction between students and faculty. Staff members are always available to help students. A friendly, informal, helpful atmosphere makes the department an enjoyable place to learn and gain practical experience.

**College of Business Administration**

The **College of Business Administration** is located in the 81,000 square-foot, four-story College of Business Administration Building, that houses the college’s offices, classrooms, computer laboratories, and advising services. The departments of Finance, Management, Marketing, the George W. Daverio School of Accountancy, the Fitzger-ald Institute for Entrepreneurial Studies, the Fisher Institute for Professional Selling and the Institute for Global Business share the CBA. Graduate programs are fully accredited by AACSB International—The Association to Advance collegiate Schools of Business, the most prestigious accrediting agency for business schools.

Tered, amphitheater-style classrooms permit close contact between students and pro- fessors. The Milton and Henrietta Kuskin Computer Laboratory provides three computer classrooms, each equipped with 36 personal computers and a homework laboratory for students with more than 75 computers. Each PC is equipped with current versions of word processors, spreadsheets, database managers, and multi-media software and all are connected to the Internet.

The nationally acclaimed Carl V. and Clyde A. Fisher Sales Laboratory offers six group labs, where students are connected by video equipment to a central multi-media control room. Sophisticated videotape equipment permits the recording of activities in each lab room which can then be shown to students to provide immediate feedback. This facility is a key resource in college programs for training in sales, sales management, negotiation, leadership, and employment interview preparation.

The Goodyear Tire and Rubber Company Lecture Hall, the building’s largest classroom, is equipped with a state-of-the-art audio-visual system capable of projecting textbook material, transparencies, slides, videotapes, computer screen images, and the like onto the room’s 10-by-10 foot screen. Other classrooms also offer multi-media capabilities. Facilities for seminars, continuing education programs, and student organization meetings are provided in the John P. Murphy Executive Room and adjacent small-group meeting room.

The Gary L. and Karen S. Taylor Institute for Direct Marketing occupies approximately 32,000 square feet on the fifth floor of the Polsky Building, a block away from the CBA and connected by skywalks. The facility boasts a creative lab, an analytical lab, a call center, an applied research center, several direct response laboratories, a student learning suite, an entrepreneurial incubator, offices for the Institute and an executive education suite. The college’s direct marketing and executive education programs are housed in these facilities.

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

Offices of the college’s 15 active student organizations are located in the James Dunlap Student Organization Office Suite just off the atrium lobby. Student Organizations offer opportunities for development of personal, professional, leadership, and networking skills through interaction with business professionals and other students.

**College of Education**

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

The **Department of Educational Foundations and Leadership** serves undergraduate and graduate students in the College of Education. 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, philosophic, psychological, and social foundations required in all graduate education programs. The department also offers advising, research, and supervision problems, theses, and dissertations of students in their degree-granting graduate programs, the master’s programs in Educational Foundations, the master’s and doctoral programs in Educational Administration, the master’s program in Higher Education Administration, the master’s program in master’s in Business Education, and certificate programs in Technical and Skills Training and Postsecondary Teaching.

The **Department of Sport Science and Wellness Education** prepares students for careers in teaching, athletic training for sports medicine, sport and exercise science, community and school health education, coaching, related recreational fields, and related health fields. There are laboratories for the study of exercise physiology, sport psychology, teaching sport and exercise, coaching, related sports medicine, and related physical and health education. The department has access to the James A. Rhodes Health and Physical Education Building (classrooms, the main gym, an indoor run-
ning track, a multi-purpose room, and four teaching station areas), Memorial Hall (a swimming pool, nine raquetball courts, and a weight room), and Lee Jackson Field (an outdoor running track and two softball fields).

The Department of Curricular and Instructional Studies includes the areas of early childhood (P-12), childhood, secondary (elementary to young adult), preschool to grades 12 (P-12) education, and the areas of special education as an intervention specialist for early childhood (P-3), mild/moderate/intensive, mild to moderate (K-12) or moderate to intensive (K-12). Initial teacher preparation programs are available at the undergraduate, post-baccalaureate, and master’s degree levels. The early childhood program prepares teachers to teach grades three to grade three. The middle childhood program prepares teachers to teach grades four through nine with specialization in each of two areas selected from reading/language arts, mathematics, and science/social studies. The secondary program prepares teachers in grades 7-12 in the following areas: mathematics, science, social studies, family and consumer science (grades 4-12), or vocational education (grades 4-12). The P-12 program prepares teachers of foreign language, music, dance, drama, or visual arts. Endorsements are available in computer/technology, reading, and teaching English as a second language. The special education options prepare graduate students to be master teachers and supervisors of special education programs. The University Center for Child Development, a collaborative unit with the College of Fine and Applied Arts, provides care for children while serving as an experimental learning site for teacher education students.

The Department of Counseling offers graduate programs leading to the Ph.D. as well as the master’s degree. The Ph.D. is offered in Counselor Education and Supervision (Counselor Education and Supervision, Marriage and Family Counseling, Counseling Psychology), Counseling/Therapy, and Counseling Psychology (a collaborative program with the Department of Psychology in the College of Arts and Sciences). Masters programs are offered in Community Counseling, Marriage and Family Counseling/Therapy, School Counseling, and School Guidance for Teachers. The department also operates a multidisciplinary clinic, the Clinic for Child Study and Family Therapy.

College of Engineering

The offices, laboratories, classrooms, research facilities, machine shops, computer laboratories, and other facilities of the College of Engineering are located in the Auburn Science and Engineering Center, Schrunk Hall North, Whitby Hall, and the Olson Research Building. The current active research centers include the Computational Mechanics Research Center, the Institute for Biomedical Engineering Research, the Material Science and Engineering Laboratory, the Chemical and Biomolecular Engineering Laboratory, and the Biomaterials Laboratory.

The Department of Biomedical Engineering is located in the Olson Research Center and has classrooms, instructional laboratories and research laboratories. There are nine major research laboratories located in the Biomedical Engineering Department. The department provides graduate educational opportunities in the M.S. and Ph.D. programs as well as the joint M.D./Ph.D. program with Northeast Ohio Universities College of Medicine.

The Musculoskeletal Biomechanics Laboratory is equipped with materials testing equipment and finite element analysis capabilities. The Human Interface Laboratory conducts research in virtual reality, telemarketing, biofeedback therapy and minimally invasive surgery. The Rehabilitation Engineering Laboratory is equipped to conduct collaborative research on problems related to stroke, head injury and arthritis. The Biomedical Instrumentation Laboratory has continuous wave and Doppler ultrasonic equipment, temperature sensing devices, and blood pressure and flow monitoring equipment.

The Vascular Dynamics Laboratory provides facilities to analyze blood flow using laser Doppler anemometry and Doppler ultrasound techniques. The Motion Analysis Laboratory studies all aspects of human movement. This laboratory is equipped with a Vicon Motion Analysis System, two AMTI force plates, a MA-100EMG system, and associated computer hardware and software.

The Biostereometrics Laboratory is equipped to perform spatial analysis using three-dimensional sensing technology, which includes a Kern Maps-200 Digitizing System and a JK Laser Holographic camera for laser holographic interferometry.

The Department of Chemical and Biomolecular Engineering is located in Whitby Hall with research laboratories in the North Tower of the Auburn Science and Engineering Center.

The Applied Colloid and Surface Science Laboratory has a state-of-the-art laser light scattering facility including a Leelx argon-ion laser, a vibration isolated optical bench, a Brookhaven correlation and probability analyzer, FTIR-Raman, TGA, and an IBM 3081 computer. The applied laboratory has recently been expanded to include a Brookhaven small angle X-ray scattering facility. The Department of Chemical and Biomolecular Engineering is located in the South Tower of the Auburn Science and Engineering Center. Included are laboratories for the study of circuits, analog and digital electronics, control, computers, energy conversion, microprocessor interfacing, power electronics, and electromagnetics.

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

The analog and digital electronics laboratory builds on the circuits sequence and introduces students 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 free access to students. The laboratory contains networked personal computers with all software necessary for other courses, as well as word processing and networking software. The laboratory also serves courses in computer engineering and many elective courses and for research purposes.

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

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

The microprocessor interfacing laboratory includes personal computers, single-board micro computers and induction power supplies in addition to measurement equipment and components. The microprocessor interfacing laboratory is dedicated to interfacing the computer to the outside world.

The Multiphase and Solids Processing Laboratory is equipped to do research in filtration and flows through porous media. The lab is equipped with a gamma ray instrument for measuring porosity of packed columns and filter cakes, a Frazier Test to measure air permeability of filter media, a Hiac Royco BRB particle counter, a Zeta Meter and a BioNectro Laser Diffusion Photometer for measuring zeta potentials. An optical system is set up to measure particle sizes and size distributions. The Nonlinear Control Laboratory is equipped with Unix based workstations and a variety of engineering software packages.

The Biomedical Engineering Laboratory, a key lab in the Ohio Biomedical Engineering Ph.D. Program, is equipped with an HPLC-MS with additional luminescence, UV/VIS, and associated computer hardware and software.
Digital controllers and all digital measuring equipment account for a very modern power electronics laboratory. The electromagnetic/microwave measuring laboratory uses basic experiments in transmission lines, waveguides, and antennae to each the principles involved. In addition to the basic equipment, the laboratory has a shielded room for specialized measurements.

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 supersonic 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 range of test equipment, 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 uniaxial universal testing machine for performing static, quasistatic, cyclic and dynamic tests on a spectrum of engineering materials and several types of hardness testing equipment. The Parker Hannifin Motion and Control Laboratory has hydraulic and pneumatic servo systems as well as serval pilot systems controlled by PLCs and computer controllers. The Experimental Mechanics Laboratory has photoelastic strain measuring equipment and associated facilities, coupled with a complete range of strain gage 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 Smart Materials and Structure Laboratory has piezoelectric and shape memory based actuators, transducers, and the relevant control systems.

The Vibration and Acoustics Laboratory has electromechanical shakers, sound pressure level instrumentation, and frequency spectrum analyzers for modal analysis. The Metallography and Failure Analysis Laboratory has a complete set of metallographic instruments for metal preparation and metallographic analysis of both conventional and advanced engineering materials, and electron microscopes for analysis of failure.

The facilities in the Department of Polymer Science contain extensive laboratories for polymer synthetic chemistry and for the characterization of macromolecules and polymer morphology. A nuclear magnetic resonance laboratory is maintained with several high-resolution instruments. 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. Processing laboratories include unique blending/compounding and molding facilities.

The Akron Polymer Training Center serves as a laboratory for the processing and testing of rubber and plastic materials. This Center provides laboratories 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 Electron 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 support facilities providing audio and video equipment as well as graphics workstations and linear and non-linear editors. Portable audio and video equipment is available for location use. There is an audio recording facility with multitrack capability. The School also houses radio station WZIF, an on-air 7500 watt FM radio station serving Northeast Ohio. WZIF-FM is operated by UA students under the supervision of professional broadcasters and gives students an opportunity to develop skills in broadcasting and communication through the completion of on-air assignments. A multimedia production/editing laboratory-classroom supports class instruction. News, publications, and other writing classes have access to a Macintosh computer laboratory with complete desktop publishing layout, graphics, and print capabilities.

The School of Dance, Theatre, and Arts Administration is located in the Ballet Center and Guzzetta Hall. The Theatre Program offers graduate programs in Theatre and Arts Administration. It 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. Kolbe Hall is the site of the 244-seat Daum Theatre, complete with support facilities. This conventional proscenium theatre is the home of theatre production. The Akron 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/video and sound equipment. An multimedia production/editing laboratory features digital and analog multitrack recording and sound synthesis equipment for music composition. Classrooms, studios, and 40 practice rooms (acoustical sound modules) are used for teaching, rehearsals, and practice.

The School of Social Work offers CSWE-accredited professional training to social work students by linking them to a variety of local human services agencies and organizations. The school houses the Audiology and Speech Center, which functions as a practice training arm as well as a service agency for persons in the region who have speech, language, and/or hearing problems.

College of Nursing

The College of Nursing, located in Mary Gladwin Hall, provides professional nursing education at the master’s and doctoral levels. The college is approved by the Ohio Board of Nursing and the master’s program is accredited by the Commission on Collegiate Nursing Education. The College has a Student Affairs Office which provides academic advising and career services to prospective students. The College contains a state-of-the-art Learning Resource Center, including a computer laboratory exclusively for nursing students. The Center for Nursing within the College is closely linked to the Akron community and is used by faculty and students for community service, practice, education and research. The College of Nursing also has a Center for Gerontological Health Nursing and Advocacy whose primary goal is to improve the health care and quality of life for elders. For more information visit http://www3.uakron.edu/nursing

College of Polymer Science and 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. Options which emphasize polymer engineering have been developed with the Department of Chemistry. The Polymer Science and Polymer Engineering and Mechanical Engineering for undergraduate students interested in the polymer industry. Options have also been developed in the college of Arts and Sciences in Chemistry and Physics which emphasize polymer science. In addition, an interdisciplinary undergraduate program leading to a degree in Mechanical Polymer Engineering, approved by the College of Arts and Sciences, is offered in cooperation with the College of Engineering and Polymer Science and Engineering was started in fall 1995. Students in this program are administered in the College of Engineering, and the program is described in that section of this Bulletin.

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 synthetic 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 $15 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 microscale compounding, and seven internal mixers including flow visualization capability, eight single-screw extension lines for plastics and rubber, with ultrasonic and sound waves and rotational mandrel dies, and with single/multiple bubble tubular film and cast film extrusion capability as well as two biaxial film stretchers. Molding facilities include a screw injection molding capability of five machines, blow molding, plug assist thermoforming and compression molding machines, filament winding and pultrusion processing for composites. Characterization capability includes scanning electron and atomic force microscopy, X-ray diffraction (including a rotating anode X-ray generator), Fourier transform infrared, small
angle light scattering, optical microscopy and retardation, radiography, differential scan-
ing calorimetry, thermogravimetric analysis, dielectric thermal analysis, and surface profiling, rheological and mechanical testing, including 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 techn-
icians for the polymer industry. The Center also provides classrooms and laborato-
ries for graduate students in Polymer Engineering, for undergraduate students in Mechanical Polymer Engineering, and for two-year associate degree students in Poly-
mer Technology as well as continuing education courses for scientists and engineers.

The Computing Help Desk, located in Bierce Library, Room 69, provides call-
in (330) 972-6888, e-mail helpdesk@uakron.edu and walk-in support for all stu-
dents, faculty and staff.

Hours of operation during the Fall and Spring semesters:
Monday-Thursday 7:30 a.m. - midnight
Friday 7:30 a.m. - 9 p.m.
Saturday 9 a.m. - 8 p.m.
Sunday noon – midnight

Technology Learning Support Services (TLSS) provides the campus commu-
nity with support services for computing hardware and peripherals, consultation in planning, development, and implementation of departmental computing labs, second level technical support for departmental computer labs, as well as hard-
ware and software support for faculty, staff and student personal computing equipment.

Computer Labs: A combination of 270 Dell and IBM wireless laptops are avail-
able for two- and four-hour loans in Bierce Library, room 361, the Science & Technology Library, Circulation desk and the Student Union, information desk. The wireless laptops can be used anywhere within the libraries and Student Union. To access the internet, to get help with a software installation, to do class assignments. Two gen-
eral purpose computer labs for students are located in Polksey Building, Room 267 and the College of Arts & Sciences Building, Room 103A. Each is equipped with 20 state of the art Windows desktop PCs, HP printers, and scanning stations. Both the wireless and general purpose labs have the same productivity tools such as Microsoft Office, Adobe e-Books, SPSS and SAS. All computers have internet and e-mail capabilities.

Internet Kiosks: 31 strategically placed internet kiosks provide instant access to e-mail and Web resources on campus.

Student Computer Support Services: SCSS, located in the Lincoln Building, Room 103, (330) 972-7628, provides University of Akron students with knowl-
edgeable assistance in the setup and operation of their personal computer equip-
ment. SCSS will install University approved software and assist in installing hardware peripherals. SCSS will also provide hardware diagnostics, software diagnostics (within reason) and basic troubleshooting. SCSS will not install or troubleshooting any software or hardware relating to games. If a hardware prob-
lem is found or suspected, our student technicians will give you an idea as to where the problem lies, so that you can seek assistance from your hardware provider or service center. SCSS can also help you set up your dial-in access to the University Computer Network as well as direct network connections or wire-
less for residence hall students. All Microsoft software must be purchased by the student prior to installation. Microsoft software products are available to stu-
dents through Computer Solutions at significantly reduced prices.

Student Computer Support Services hours of operation are:
Monday - Friday 7:30 a.m.-4:00 p.m.
Weekends By appointment

Computer and Laptop Repair: The University of Akron Electronic Repair and the Bierce Laptop Service Center are the certified service centers for the IBM laptops as well as for Apple, Dell, Gateway, and HP computer products. Service for the laptops is provided as a carry-in service. Electronic Repair is located in the Lincoln Building, Room 103, (330) 972-7628.

The hours of operation are:
Monday - Friday 7:30 a.m.-4:00 p.m.
Bierce Laptop Service Center hours of operation are:
Monday - Friday 1:30 p.m.-9:30 p.m.
Saturday 9:00 a.m.-6:00 p.m.
Sunday 1:00 p.m.-10:00 p.m.

Software Training Services develops web-based tutorials and documentation for student self-service applications, the portal (ZLine), WebCT, and e-mail (WebMail). For more information, visit Software Training Service’s web site at http://cbt.uakron.edu.

Computer Based Assessment & Evaluation provides support to students who are required to take surveys, assessments, and tests online. The testing lab is located in Carroll Hall 325 and reservations for test appointments can be made at http://cbt.uakron.edu.

Design and Development supports faculty and students who participate in dis-
tributed learning courses and programs. Support is provided through the following activities: design, develop and support selected curriculum-based distributed learning programs and courses, design and develop customized computer-based multimedia programs, and digital video taping, editing, and asynchronous video streaming. For further information, contact Design & Development Services at (330) 972-2431. For web course support, e-mail webhelp-L@lists.uakron.edu.

Distributed Education Facilities provides synchronous videoconferencing and web collaboration capabilities to the classroom environment. Students at the Uni-
versity are able to interact and share materials with students at one or more remote locations in classrooms equipped with state-of-the-art videoconferencing and web collaboration technologies. In addition to accommodating traditional course offer-
ings, Distributed Education Facilities provides corporate videoconferencing, a rela-
tionship with a network of content service providers, and special even connections that support educational initiatives. For further information please contact (330) 972-
6522.
Network Services provides network connectivity and remote access for faculty, staff, and students. Network connections are available in the Residence Halls and the entire campus is covered with 802.11b wireless services. Remote access is provided by the use of modem dial-in lines and VPN access. High speed cable modem service from the local area cable provider is also available at a reduced rate. UAs computer network, named UAnet, provides access to ZipLink, OhioLink, E-mail, the Internet, UAnet’s web pages, and network file storage and printing.

RESEARCH CENTERS AND INSTITUTES

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, schools, centers, and institutes. The council consists of the Vice President for Research and Dean of the Graduate School, 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 Vice President for Research and Dean of the Graduate School and the Director of Research Services and Sponsored Programs.

Akron Global Polymer Academy
Charles R. Parsons, Assistant to the Dean
As a world leader in polymer research and education, The University of Akron’s College of Polymer Science and Polymer Engineering uses the Akron Global Polymer Academy for synchronous and asynchronous distance learning to support K-12 science instruction, global research collaboration, internet instrument sharing, virtual laboratories, graduate education, and workforce development.

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
Daniel B. Sheffer, 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 purpose of 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 Advanced Vehicles and Energy Systems (CAVES)
The Center for Advanced Vehicles and Energy Systems (CAVES), in operation since 2002 and officially established in 2005, focuses on the research, development, and dissemination of advanced automotive technology and alternative energy systems and their enabling technologies. To date, CAVES has attracted over $4.6 million in funding from federal, state, and industrial sources. The departments of Electrical and Computer Engineering and Mechanical Engineering have about ten faculty and 40 undergraduate and graduate students currently involved in hybrid vehicle technology and related areas. CAVES activities are housed within a number of facilities comprising approximately 4,000 square feet. These facilities include the Power Electronics Research Laboratory, the Battery Research Facility, the Challenge X HEV Facility, and the Pervasive Automation Laboratory. Approximately 12 master’s and doctoral students have graduated over the last five years in CAVES related fields.

Center for Applied Polymer Research
Robert H. Seiple, M.S., Manager
Operating under the Institute of Polymer Science, the Applied Polymer Research Center (APRC) provides technical services to thousands of companies. Industrial clients of all sizes gain access to top researchers, knowledge bases, and advanced equipment. With a full-time professional staff, the APRC is dedicated to providing timely and reliable contractual technical services for industrial and government clients. Key areas of technical service include: polymer characterization, additive identification, defect analysis, thermal analysis, dynamic mechanical thermal analysis (RPA, DMTA), electron microscopy (STEM, TEM, SEM, AFM), chromatography and spectroscopy.

Center for Collaboration and Inquiry
Operated jointly by the Buchtel College of Arts and Sciences and the College of Engineering, the Center for Collaboration and Inquiry was created in 2002 to promote the practice, research, and dissemination of inquiry-based teaching and learning. The Center supplies the resources and assistance necessary for P-16 teachers to create effective learning environments and fosters collaborative research efforts between experts of both content and educational methods.

Center for Conflict Management
William T. Lyons, Jr., Ph.D., Director
The University of Akron has a long and proud history of the interdisciplinary study of conflict, because understanding the nature of conflict is the first step toward reducing conflict and violence at home, in our communities, workplaces, and schools. The Center for Conflict Management, jointly administered by the departments of Political Science and Sociology, seeks to build on that tradition by combining courses in several departments to enhance the capacity of students to effectively work toward reducing the harms associated with conflict and violence—from interpersonal to international.

For more information, contact the office, 202 Olin Hall, 330-972-6855, wtylons@uakron.edu, or www.uakron.edu/centers/conflict.

H. Kenneth Barker Center for Economic Education
Fred M. Carr, Ph.D., Director
The center exists to improve the economic literacy of individuals to help them function competently as citizens, producers and consumers. The center conducts workshops, seminars and economic programs for teachers, students and interested groups. It provides consulting services in the area of economic education and acts as a clearinghouse for the gathering and dissemination of economic education materials and programs. It also fosters an understanding and appreciation of the American economic system.

Nancy K. Grant, Ph.D., Director
The intent and primary charge of the Center for Emergency Management and Homeland Security Policy Research (CEMHSPIR) is the improvement of the practice of emergency management. The Center focuses on policy and its interaction with the function of emergency management. This policy analysis and research relates to contemporary Emergency Management questions/issues in the State of Ohio and Nationally. Project areas include terrorism preparedness, business and industry continuity, disaster response, and recovery assessment as well as management practices relating to crisis and disasters.

Center for Environmental Studies
The Center for Environmental Studies matches the expertise of about 100 faculty in 33 disciplines with the needs of students seeking study and research opportunities related to the environment. Since its founding in 1970, the center has sponsored, or in other ways supported, activities appropriate to understanding the Earth system and maintaining a quality environment for humanity. The center offers both undergraduate and graduate certificate programs. By enrolling in selected courses outside of their major field of study, students receive the broad training required to address environmental concerns. The center also 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 environmental studies in England,
energy, and natural history exemplify the interdisciplinary approach to the understanding of issues.

**Center for Family Business**
Susan C. Hanlon, D.B.A., Director
The Center for Family Business provides resources 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. For information, call 330-972-7885.

**Center for Family Studies**
Helen K. Clemintshaw, Ph.D., Director
The Center for Family Studies, established in 1979, was designed to stimulate and encourage the interdisciplinary study of the family. It serves both the University and the community by fostering collaboration between faculty, students, practitioners and community leaders on curriculum development, educational conferences and seminars, research and training, and public policy relevant to important family issues.

The Center is represented by faculty from 5 colleges and over 15 disciplines. It also includes leaders from various community systems, such as the schools, hospitals, courts, churches, mental health, social and health care agencies. In addition, the Center has a fellows program in which outstanding faculty and community leaders are named as either fellows, adjunct fellows or senior fellows.

The Center offers certificates in the following specialty areas: Case Management for Children and Families; Divorce Mediation; and Home-Based Intervention. For more information, please refer to the descriptions of Interdisciplinary and Certificate Programs in this Bulletin or the General Bulletin. 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.

**Center for Gerontological Health Nursing and Advocacy**
The mission of the Center for Gerontological Health Nursing and Advocacy is to advance knowledge about appropriate and effective health promotion and disease prevention programs for elders. The Center has a tripartite focus of education, research, and service to improve the health care and quality of life for elders. Activities of the Center include interdisciplinary research within the university and health care communities, best practices development for care of older adults in institutional and community settings, and education initiatives to prepare health care professionals in the delivery of elder care. The Gerontology is part of the University of Akron's College of Nursing.

**Center for Literacy**
Evangeline Newton, Ph.D., Director
The Center for Literacy furthers the mission of both the University of Akron and its College of Education through a variety of programs that support development of expertise and dissemination of knowledge about language learning. The Center brings together college, university, and K-12 teachers and students of expertise and dissemination of knowledge about language learning. The Center brings together college, university, and K-12 teachers and students to learn how they can participate or learn more about the Center's activities.

**Center for Nursing**
Annette Mitzel, MSN, RN, Interim 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 leaders from various community systems, such as the schools, hospitals, courts, churches, mental health, social and health care agencies. The Center for Nursing opened in 1982 as one of the first academic nurse-managed centers in the United States. College of Nursing faculty and students provide non-emergency, episodic health care and health education to community residents who do not have health insurance.

**Center for Organizational Development**
Andrew Thomas, M.B.A., Interim 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.

**Center for Organizational Research**
Dennis Doverspike, Ph.D., Director
The Center for Organizational Research is a business research and consulting center managed by the Industrial/Organizational Psychology Department at the University of Akron. The Industrial/Organizational Psychology Department at the University of Akron consistently ranks as one of the top ten programs in the nation (according to U.S. News & World Report).

The COR's mission is to provide top quality consultation and research-based interventions to the business community. The COR also serves the purpose of providing professional training and research opportunities for graduate and undergraduate students. The COR is able to provide a tailored approach to the client’s needs because of its smaller client base and research orientation. COR offers larger organizations access to solutions based on cutting-edge research from a nationally regarded academic program.

**Center for Policy Studies**
Sonia Alemagno, Ph.D., Acting Director
The Center for Policy Studies is an associated center of the Institute for Health and Social Policy.

The Center houses The University of Akron survey research unit, with responsibility for external grant and contract research, research support for the Urban University Linkage program, sponsored research for faculty, and internal University surveys. Geographic scope of work for center projects extends from local jurisdictions through state, national and international projects. Most of the work conducted in the center is on behalf of government or nonprofit agencies or grant-funded subcontracts for faculty researchers. Center professional staff are available for consultation in the development of grant proposals and budgets.

The Center has responsibility for the administration of the Board of Regents Urban University Program (UUP) which links eight state universities to collaborate on the identification of significant urban problems and propose solutions designed to improve the urban regions of Ohio. The University of Akron Urban University Program, in addition to the collaborative mission of the Ohio UUP, encourages community-oriented research and policy analysis through Partnership Grant Program.

The Center also houses a State Data Center under the aegis of the Ohio Department of Development to provide Census and other data to appropriate agencies and coordinate geographic information system activities with the Department of Geography and Planning.

**Center for Public Service Research and Training**
Peter J. Leahy, Ph.D., Director
The Center for Public Service Research and Training (CPSRT), established in 2002, is a division of the Institute for Health and Social Policy (IHSP), a multipurpose research institute of the University of Akron. CPSRT evolved from the Center for Urban Studies, established at the University of Akron in 1967. CPSRT's mission is to assist the local and regional community in policy analysis and evaluation, applied research, professional service and the resolution of social, economic and public management problems. CPSRT offers its services to governments of all levels, to community foundations, to human service agencies and to community organizations. Particular expertise is available in program evaluation and program improvement strategies, strategic program planning, strategic management, community needs assessment, community planning and the conceptualization and design of research projects.

CPSRT draws upon the full range of senior research associates, professional staff and related research centers available in the IHSP as well as upon faculty and doctoral students from the Department of Public Administration and Urban Studies. In tandem with the Center for Policy Studies (CPS), another division of the IHSP, CPSRT also offers clients a state of the art computer assisted telephone interviewing (CATI) facility, a state of the art focus group room and GIS mapping services. The Center for Public Service Research and Training also plans to offer workshops and professional training on a regular basis.

**Center for Statistical Consulting**
Chand Midha, Ph.D., Director
The mission of the Center for Statistical Consulting in the Department of Statistics is to provide the university community and the community at large with professional assistance in the design and analysis of statistical problems. The office, located in the College of Arts and Sciences Building, Room 18A, is open for consultation by appointment. Call (330) 972-6886.

**Center for Urban and Higher Education**
Sajit Zachariah, Ed.D., Director
The Center for Urban and Higher Education is a public education and research unit within the College of Education with the broad purpose of improving student
achievement pre-K through higher education. It serves both the University and the community by fostering collaboration among faculty, students, practitioners, and community leaders in educational conferences and seminars, research, evaluation, and training.

Workforce Development and Continuing Education
Daniel L. Hickey, Director

The mission of Workforce Development and Continuing Education is to serve the people of Northeastern Ohio by offering courses and programs that increase access to The University of Akron, linking it with community, business and industrial workforce needs. Workforce Development and Continuing Education at The University of Akron provides a wide range of educational, technical, and research services that enhance the effectiveness and quality of workforce learning. In addition, Workforce Development and Continuing Education provides services that require the special expertise of the faculty and staff to better serve the economic and social development of Northeastern Ohio.

English Language Institute
Debra L. Deane, M.A., Director

Established in 1979, the English Language Institute (ELI), part of Buchtel College of Arts and Sciences, offers two programs in English as a Second Language (ESL) instruction. The English for Academic Purposes Program provides non-credit ESL courses to international students and nonnative residents who plan to pursue an undergraduate or graduate degree at The University of Akron or another U.S. university. The intensive, 20-hour per week program also serves individuals who wish to improve their English to meet their own professional and/or personal goals. ELI courses at four levels of English proficiency target language and academic skills needed for successful study at a U.S. university: reading efficiently, writing clearly, taking lecture notes, and communicating effectively in English. Students also study grammar and vocabulary and prepare for the TOEFL test of English language proficiency, which is required for admission to the University. In addition, students receive a wide variety of support services to facilitate their transition to life and study in the United States.

The Community and Corporate ESL Program, designed specifically for nonnative English speakers living and working in Northeast Ohio, offers a variety of small group, non-intensive courses (e.g., business writing, conversation, vocabulary development, and pronunciation); private tutoring; consulting (e.g., editing of documents, language assessment); and workplace ESL classes contracted through employers for job-related English instruction. The ELI can also provide specialized courses for UA departments (e.g., thesis/dissertation writing, speaking for international graduate students). In addition to these instructional programs, the ELI administers The University of Akron Developed English Proficiency Test (the U-ADEPT), which assesses the speaking ability of prospective international teaching assistants at UA and determines their readiness to provide classroom-related services in their graduate departments. The ELI serves as a resource on issues relating to language proficiency for University faculty, staff, and students as well as for members of the local community. For more information, visit the ELI web site at www.uakron.edu/eli, e-mail eli@uakron.edu, or call 330-972-7544.

Fisher Institute for Professional Selling
Jon M. Hawes, Ph.D., Director

The Fisher Institute for Professional Selling was founded in 1994. 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.

William and Rita Fitzgerald Institute for Entrepreneurial Studies
Todd A. Finkle, Ph.D., Director

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. For information, contact the Institute, CBA 330, 330-972-8479.

Institute for Global Business
Bruce Keilor, Ph.D., 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 offers an international executive MBA and also develops short courses and seminars to assist in improving international competitiveness of area business.

Institute for Health and Social Policy
Sonia A. Alemagno, Ph.D., Director

The Institute for Health and Social Policy, located on the fifth floor of the Polsky Building, was established in February 1999 for the study of the delivery of effective health and social services. The mission, objectives and research continuum are defined as follows:

Mission
To improve the quality of services to specific target groups most at risk of health and social consequences in order to decrease morbidity and mortality and the burden of health and social problems on the community and individuals.

Objectives
• Conduct research appropriate to the mission
• Collaborate with units on campus
• Assist faculty in the development of proposals

Research Continuum
• Epidemiology
• Intervention Development
• Service delivery
• Technology transfer
• Policy

Most of the work conducted by the Institute is on behalf of government or nonprofit agencies. Faculty and students have the opportunity to collaborate on research and evaluation projects of national significance. The Institute also serves as an educational resource for students and the community for the most up-to-date social and health services research available and the latest advances in behavioral and social science research technologies.

Institute for Teaching and Learning
Rex D. Ramsier, Ph.D., Director

Mission
The University of Akron’s Institute for Teaching and Learning promotes, coordinates, and supports faculty efforts to improve, assess, and document teaching effectiveness and student learning quality - and to advance and disseminate the scholarship of teaching, assessment, and learning.

The ITLs Responsibilities
• Consulting with colleges, departments, and individual faculty on teaching, learning, evaluation, and assessment issues
• Developing and providing targeted professional development activities, information-gathering and sharing
• Documenting, publicizing, and celebrating teaching and learning innovation and excellence
• Providing information, advice, and leadership on teaching and learning matters
• Providing leadership and support for research on the scholarship of teaching and learning

For more information, visit the ITL website at www.uakron.edu/itl or contact The Institute at 330-972-2574.

Intellectual Property Law and Technology Center
Jeffrey M. Samuels, J.D., Director

The Intellectual Property Law and Technology Center in the School of Law is one of approximately 14 such centers in the nation. The center exposes the community to critical thinking in the intellectual property law field, coordinates and implements the Law School intellectual property law curriculum, and hosts an annual Conference on Intellectual Property Law and Policy. The Center works with other schools within the University in the design and implementation of interdisciplinary courses relating to intellectual property law. Commencing the fall of 2005, the Center implemented a new Master of Laws in Intellectual Property Law Program; one of only 17 such programs in the country and the only one in Ohio.

Institute for Life-Span Development and Gerontology
Harvey L. Sterns, Ph.D., Director

The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit certificate programs in gerontology at the un-
graduate and graduate levels. There is a combined graduate certificate program with Kent State University. Combined, the two universities offer a diverse range of graduate courses with aging-related content and joint faculty that are nationally and internationally recognized scholars in gerontology. In addition, the undergraduate certificate is included in the Ohio Board of Examiners of Nursing Home Administrators approved course of study in Nursing Home Administration which combines a Bachelor of Science degree in management (Human Resource Management Concentration) with a Certificate in Gerontology.

The Institute of Life-Span Development and Gerontology has grown into a campus-wide 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 108. The Institute has served 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 and The Tri-County Senior Olympics.

The institute is a member of the Northeastern Ohio Consortium on Geriatric Medicine and Gerontology, joining together with the Office of Geriatric Medicine and Gerontology, Northeastern Ohio Universities College of Medicine; Gerontology Center, Kent State University; and Gerontology Committee, Youngstown State University.

Institute of Polymer Engineering

Lloyd A. Goettler, 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, is 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.

The Maurice Morton Institute of Polymer Science

Frank W. Harris, Ph.D., Director

The institute is concerned with basic and applied research in polymers. It was established in 1956 as the Institute of Rubber Research and in 1964 became the Interdisciplinary Institute of Polymer Science. The University’s first Ph.D. program in polymer chemistry was started in 1956 and was administered by the institute until a separate Department of Polymer Science was established in 1967. The Institute maintains extensive laboratory facilities and the Applied Polymer Research Laboratory. It is the principal organization responsible for external funding of research projects and graduate fellowships in polymer science.

Microscale Physiochemical Engineering Center (MPEC)

George G. Chase, Ph.D., Director

The Microscale Physiochemical Engineering Center (MPEC) was established in 1996 by faculty with a common research interest in materials composed of very small particles and fibers. These particles and fibers can be used in applications including heterogeneous catalysis, fluid/solid separations, paper/pulp processing, soil remediation, waste water decontamination, and solid transport. The unique feature of MPEC is the ability to form multi-disciplinary teams of faculty and graduate students to solve specific industrial problems.

The Center 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.

Training Center for Law Enforcement and Criminal Justice

Don V. Laconi, Director

The Training Center for Law Enforcement and Criminal Justice, employing the expertise of the Criminal Justice Technology faculty and the experienced professionals in the field of Criminal Justice, provides state certified training in the following areas: Basic Peace Officer Training Academies, Private Security, Academies, Police Refresher Training, Firearms Requalification, and In-service Seminars.

Training Center for Fire and Hazardous Materials

Phillip W. McLean, Training Coordinator

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 is chartered from the Division of EMS and offers all State Certified Classes for firefighter certification. There are 190 certified Emergency Services Instructors to fill any training requirement for municipal and business and industry. The center coordinates seminars and workshops presented by the Federal Emergency Management Agency (FEMA), the National Fire Academy, 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.

Student Affairs

Counseling, Testing, and Career Center

The Counseling, Testing and Career Center provides psychological counseling, career planning, educational counseling, testing, outreach and consulting services to the University community. The Center is staffed by a culturally diverse group of psychologists and psychology interns. Counseling services are free and confidential to enrolled students. There is a fee for testing services. The Center is located in Simmons Hall, 306. Phone numbers are: Counseling Services (330) 972-7082, and Testing Services (330) 972-7084. Visit our website at http://www.uakron.edu/counseling.

Counseling Services

• Short-term personal counseling and psychotherapy addresses many areas including stress, loneliness, anxiety, and depression; alcohol and drug use; relationships (family, partners, friends), sexual assault; oppression, cultural identity and self-esteem. Biofeedback services are also available for stress management. ULife-line is an informative mental health and wellness link on the webpage.

• Career counseling helps students decide on a major and career direction. Students identify interests, values, abilities and goals and relate these to the world of work. Testing and occupational information is available through counseling, workshops and on the CTCC Web site.

• Educational counseling helps students develop educational goals and motivation, as well as effective study skills. A streaming study skills web video is on the webpage.

• College Survival Kit workshops cover many topics including improving academic performance, career planning, increasing wellness, and personal issues; as well as providing support groups for students of diverse cultures. Brochures are available.

Testing Services

• Numerous testing programs including, CLEP, college entrance examinations, career assessments, personality assessments, academic placement testing, on-campus academic testing and learning disorder assessments are available.

Outreach and Consulting Service

• The Center regularly provides speakers for classes, residence halls, student organizations, and administrative offices. Consultation is available for emergency and crisis situations.

Center for Career Management

The Center for Career Management's mission is to provide career services to all students and alumni of The University of Akron. Career Services for graduating students include opportunities to participate in on-campus interviews with representatives from business, industry, education, and branches of the government. In addition, career strategy seminars are offered on resume writing, interviewing skills, and job search strategies through the academic year. Career consultations are available for current students and alumni and may be scheduled by contacting the Center for Career Management. The Center also boasts a career resource library that contains computers, employer literature, videotapes, job search information, current job openings, and career related books and periodicals. The Center promotes career expos in collaboration with academic colleges, giving students the opportunity to network with hundreds of potential employers. The Center is located in Simmons Hall, Room 301 and can be contacted at (330) 972-7474 or via the web at http://www.uakron.edu/ccm.
**Student Health Services**

The goal of Health Services is to assist students to achieve their educational and personal goals by addressing their health care concerns while they are enrolled at The University of Akron. Health Services is located in the Student Recreation and Wellness Center.

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 available to those students enrolled for six or more credit hours. Student Health Insurance is required of all international students except those who present proof of similar coverage. The student insurance provides coverage for such items as hospitalization, surgical benefits, and in-hospital medical benefits.

Completed health forms and other health-related records are treated as confidential and are kept in the Student Health Services offices. For more information, contact Health Services at 330-972-7808.

**Office of Accessibility**

The University welcomes students with disabilities. The mission of the Office of Accessibility is to provide students with full access to and the opportunity for full participation in the academic environment. We are advocates of social justice for students with disabilities and work to end oppression by examining the social, cultural and institutional barriers to inclusion of all students. We embrace the diversity of our student body and celebrate a culturally sensitive and accessible campus through outreach, partnership and advocacy with many university departments.

Our goal is to provide reasonable accommodations and a supportive, well-resourced environment to students with disabilities in order to promote student success in the university environment. This mission goes well beyond the legal requirements, including Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, and supports the University’s commitment to create a welcoming environment for all students. For more information, call (330) 972-7928 or (330) 972-564 (TTY), see our website at www.uakron.edu/access, or visit Simmons Hall Room 105.

**Center for Child Development**

The University of Akron Center for Child Development provides a variety of early childhood programs which are open to students, faculty, staff, and the community. The trained teaching staff provides a stimulating learning environment and opportunities for growth in all areas of development—social, emotional, physical and intellectual.

The Center for Child Development is open year round between 7:30 a.m. and 6:00 p.m. Monday through Friday. The program offers hourly half-day and full-day sessions for children three to five years old and toilet trained. Full-day sessions are available year round for children 18 months to five years old.

A summer program is also offered for school-aged children. This program is offered for 10 weeks from 7:30 a.m. until 6:00 p.m. For more information call the Center for Child Development, 330-972-8210.

**The Student Union**

The Student Union, located in the center of campus, is a department that contains numerous functions of student life and student engagement, and serves the students, faculty, and staff. This facility also houses various food service facilities, meeting rooms, a movie theater, a game room, a computer technology store. As an education reseller, personal computer hardware, peripherals, and software are available at educational pricing. The store is a service for students, faculty, and staff. In addition, the store is a point of contact for other services, such as requesting a university network ID (UANet ID) or requesting a network connection in the residence halls.

**Campus Safety and Security 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 Public Safety provides for student and employee safety and security through the departments of University Police and Environmental and Occupational Health and Safety. The Division of Student Affairs is responsible for security and safety policies governing 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, and on 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-a-day patrol 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.

The University’s 33 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 police contracts and by phone, radio, and by the public. 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.

Incidents which may not rise to the level of a violation of law are referred to the Office of Student Conduct. The Student Code of Conduct Manual explains the University’s disciplinary process and is available through the Office of Student Conduct.

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

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. These programs are scheduled when requested.

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 their jurisdiction will be referred to the appropriate agency, or the complainant will be provided a phone number where the complaint can be filed. Likewise, other agencies refer complaints to University Police when appropriate. The University Police encourage prompt reporting of crimes.

Security considerations in maintenance are a high priority. Police officers patrol parking lots 24 hours each day. UA police also offer assistance to motorists with battery jumps, inflating tires, 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 7123.

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 blue jackets or maroon 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 activation of any emergency phone receiver, even if no words are spoken.

Outdoor security phones are at the main entrances of all campus residence halls. UA Police and other campus numbers can be dialed on these phones. If using an off-campus phone, dial 330-972 before the campus extension.

Campus Buildings

Most University academic facilities are open to the public from 7 a.m. until the latest evening classes let out. Administrative buildings are generally locked at 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 confine their movements to well-traveled areas. There is safety in numbers, and everyone should walk with a companion or with a group at night. Valuables should be marked with a personal identification number in case of loss or theft. Bicycles should be properly secured when not in use. Automobiles should be locked at all times. Valuables and purses should never be lying in view in a car but locked in the car trunk for safekeeping. Protect your identity and personal information.

Crime Statistics

The University of Akron Police Department complies with reporting standards set by the United States Department of Education guidelines. Our crime statistics can be found at our police department website, http://www3.uakron.edu/police/crime-prevhtm. A hard copy of crime statistics can be obtained at The University of Akron’s Police Department located at 146 Hill St., Akron, OH 44325-0402.

EMERGENCY PHONE NUMBERS

Call extension 911 on campus to reach UA police immediately.

Police .............................................................. 7123
Campus Patrol .................................................... 7263
(Police Nonemergency) ....................................... 8123
Environmental and Occupational Health and Safety .......... 6886
Fire ................................................................. 911
EMS/Medical ..................................................... 911
Electrical/Plumbing ........................................... 7415
Hazardous Materials .......................................... 8123
Closing Information ........................................... 7669

Emergency numbers are monitored 24 hours a day. If calling from an off-campus phone, dial 330-972 and then the four-digit number you wish to reach. Use 911 for emergencies when dialing from all campus extensions.
The University of Akron 2006-2007

Graduate School

George R. Newkome, Ph.D., Vice President for Research and Dean
Mark B. Tausig, Ph.D., Associate Dean

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 thinking, independence of thought, originality of method, and a purpose, freedom from bias, thoroughness of inquiry, keenness of perception and vital creativity combine to produce in the successful student both the professional competence and the breadth of understanding essential to leadership in many areas of human endeavor.

History of the Graduate School

Graduate study began a few years after Buchtel College opened its doors, and the first earned master’s degree was conferred in 1882. The College of Education awarded its first master's degree in 1924, the Colleges of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1979. The School of Speech-Language Pathology and Audiology (previously the Department of Speech and later, the School of Communication Disorders), now housed in the College of Fine and Applied Arts, was formerly a part of the Buchtel College of Arts and Sciences and conferred a master’s degree in 1963. The first earned doctoral degrees were conferred in 1959. Professor Charles Bulger was appointed first dean of graduate work in 1933, and he continued in that capacity until 1950. Professor Ernest H. Cherryington, Jr. served as director of graduate studies from 1955 to 1960 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brintnall was appointed dean of Graduate Studies and Research in 1967 being succeeded in 1968 by Dr. Edwin L. Lively. Dr. Claiborne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. Dr. Joseph M. Waldon, associate dean of Graduate Studies and Research, was administrative head of the Graduate School during the 1977-78 academic year. Dr. Alan N. Gent was appointed dean of Graduate Studies and Research in 1978 and served in that capacity until 1986. Dr. Joseph M. Walston served as acting dean of Graduate Studies and Research from 1986 until 1989. In 1989 Dr. Patricia L. Carroll became dean of the Graduate School. Dr. Charles M. Dye was named interim dean in 1993 and became the dean of the Graduate School in 1996 until his retirement in July 2000. Dr. George R. Newkome was appointed Vice President for Research and Dean of the Graduate School in January 2001.

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

Graduate Programs

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

The Graduate School offers programs of advanced study leading to the degree of Doctor of Philosophy in chemistry, counseling psychology, elementary education, engineering (biomedical, chemical, civil electrical, engineering applied mathematics, mechanical, and polymer), guidance and counseling, history, nursing, polymer science, psychology, secondary education, speech, and urban studies and public affairs. The Doctor of Education degree is offered in educational administration.

The Doctor of Philosophy programs in nursing and sociology are joint programs with Kent State University. The Doctor of Audiology (Au.D.) Program is a joint degree program administered by The University of Akron and Kent State University. The Doctor of Philosophy program in urban studies and public affairs is a joint program with Cleveland State University. Further, the school also offers programs of study leading to master's degrees in majors in diverse areas as delineated in the following pages.

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 those members of the faculty who hold appointments at the rank of assistant professor or above and teach graduate courses, supervise theses and dissertations and are generally responsible for the content in the graduate programs 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, and
- 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 two members from the College of Engineering, two members from the College of Business Administration, two members from the College of Education, four members from the Buchtel College of Arts and Sciences, two members from the College of Fine and Applied Arts, one member from the College of Nursing, 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 examination of proposed graduate programs and course offerings, recommendation of policy for all phases of graduate education, recommendation of persons for membership in the graduate faculty and advising and counseling the dean in administrative matters.

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

Graduate Student Government

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

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

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

Other Graduate Student Organizations

Chi Sigma Iota-Alpha Upsilon Chapter
Counseling Psychology Graduate Student Organization
Graduate Nursing Student Association
Industrial/Organizational Psychology Graduate Students
Master of Social Work Student Association
Minority Graduate Student Council
Polymer Engineering Student Organization
Polymer Science Graduate Student Organization
Public Administration and Urban Studies Student Association
Student Association for Graduates in Education (SAGE)
SECTION 2. 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 chair.

Admission

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

Online applications for admission to the Graduate School should be submitted electronically at least six weeks (domestic) and six months (international) 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 departments for more detailed application information.

First-time applications to the Graduate School must be accompanied by an application fee. The fee for domestic students is $30. The fee for international students is $80. A fee of $25 must accompany all domestic and international reapplications.

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

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 be made to an applicant who meets all admission requirements. However, it must be recognized that staff, facilities, and other resources are limited, so the number of students admitted will vary among departments and from term to term. An accepted applicant may begin graduate work in the fall, spring or summer semester. The offer of admission is void, however, if the applicant does not register for courses within two years from the time of admission. An individual whose offer of admission has lapsed must submit a new application to be reconsidered.

The student is admitted only for the purpose or objective stated on the application for admission. A new request for admission must be filed when the original objective has been attained or when the student wishes to change objectives. The admitted status terminates when the time limits have been exceeded or other conditions for continued admitted status have not been met.

No student will be admitted without approval and acceptance by a department within the University, but admission to a department does not necessarily imply admission to or candidacy for any graduate degree program in that department. Admission 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 is 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 chair 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 chair 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 wishes to pursue a graduate degree and has a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better or 3.00 for the last two years (64 semester credits or equivalent); or holds an advanced degree from an accredited college or university in or appropriate to the intended field; or holds a baccalaureate or master’s degree from a foreign college or university with first-class status and 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). 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 to a graduate degree program, but only when all requirements for full admission have been met.

- **Deferred Admission** may be granted if the applicant's record does not meet provisional admission standards. After completion of a postbaccalaureate program of study, with an appropriate GPA, as prescribed by the department (usually two to five courses), the student may be reconsidered for provisional admission to the Graduate School. Graduate-level coursework cannot be taken by a student under the deferred admission status.

- **Conditional Admission** may be granted to a person who has not yet attained the required proficiency in English. This proficiency can be demonstrated by an official TOEFL score of at least 550 (213 on the computer-based TOEFL) or by the successful completion of courses offered by the University's English Language Institute (ELI). Students may not enroll in graduate courses until the English proficiency requirement has been satisfied. Note: Some academic departments require higher TOEFL scores.

- **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 unlimited credits of graduate coursework. Grad- uate 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 terminates upon completion of this workshop. A student admitted to special workshop status must apply through regular channels for any other category. A maximum of six workshop credits may be applied to degree work at a later date if the applicant is given full admission to the Graduate School.

- **Transient status** may be given to a person who is a regularly enrolled graduate student in good standing in a degree program at another accredited university and has written permission to enroll at The University of Akron. Such permission is valid only for the courses and semester specified, with a maximum of 10 semester credits allowable. A student holding a baccalaureate degree from a non-accredited American college or university in or appropriate to the intended field; or holds an advanced degree from an accredited college or university, is 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 chair in the major field to develop a postbaccalaureate program.

- **Undergraduate status** is for an undergraduate student at the University who may be granted permission to take one or more graduate-level courses if all the following conditions are met.
  - senior standing (at least 96 credits completed);
  - overall grade-point average of 2.75 or better through preceding term (if a student does not have a 3.00 or better in the major field, special justification will be required from the department);
  - written approval is given by the instructor of the course and the student's advisor.

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

- **Academic Probation status** refers to any student whose cumulative graduate grade point average falls below 3.00 and is no longer in good academic standing. Full-time students placed on academic probation are expected to return to good academic standing (overall GPA of 3.00 or above) after two consecutive semesters (excluding summers). Part-time students are expected to return to good academic standing (overall GPA of 3.00 or above) within the attempting of 15 additional graduate credits. Failure to return to good academic standing may result in academic dismissal.

- **Academic Dismissal status** refers to any student 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 who is dismissed from the Graduate School may not
be readmitted for one calendar year and then only if evidence for expecting satisfactory performance is submitted and found to be acceptable.

- **Postdoctoral status is divided into three categories:**
  - **A Fellow** is a person holding an earned doctorate who is engaged in advanced research. A fellow shall be considered a guest of the University and provided space and use of facilities within limits of practical need of the undergraduate and graduate programs. Tuition and fees shall be collected if allowed under sponsoring contract for any courses the fellow may choose to take;
  - **A Special** is a person holding an earned doctorate who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, application fee (if new student) and an official transcript from the institution awarding the doctorate. This student will be treated as a regular student subject to registration fees and program degree requirements;
  - **A Guest** is a person holding an earned doctorate who desires to attend courses and seminars relevant to individual work or 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 chair and college dean shall be obtained. A guest is welcome to register for any course or seminar provided space is available. Normally, space and facilities for research cannot be provided for a postdoctoral guest. 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 chair.

**Sixty-Plus (60+) Program**

Developed in accordance with State Law 3345.27, passed in 1976 and amended in March 1999, the Sixty-Plus Program provides residents 60 and older the opportunity to audit credit classes or take courses for credit on a space-available, non-tuition basis.

To qualify for the Sixty-Plus Program, the prospective student must be 60 years of age or older and have resided in the State of Ohio for at least one year.

Sixty-Plus students are exempt from payment of tuition and general service fees but are expected to pay for any books, special fees, laboratory or instructional fees and parking, if needed. Auditing allows students to attend classes, but college credit is not awarded.

Sixty-Plus participants may enroll for 11 or fewer credits unless request to enroll in a greater number of credits is approved by the Senior Vice President and Provost. Participants in this program may be prohibited from enrolling in certain courses or classes for which special course or training prerequisites apply or in which physical demands upon students are inappropriate for imposition upon persons 60 years of age or older, or in which the number of participating regular students is insufficient to cover the University’s or college’s course-related expenses as determined by the University.

Space availability is determined after the degree-seeking students have registered. Sixty-Plus registrations are held immediately before the start of each term and participants must register in-person.

Sixty-Plus participants are subject to the same disciplinary and/or governance rules affecting all students.

A Sixty-Plus student will be issued a Student ID Card which will permit them to use specific University facilities and services and obtain student rates for purchases of goods and services.

To be eligible to enroll in a course for credit, the student’s family income must be less than 200 percent of the Federal poverty guidelines as revised annually by the U.S. Secretary of Health and Human Services for a family size equal to the size of the family of the person whose income is being determined.

**Course Load**

A full load of coursework 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 advisor in preparing a program of courses and/or research. A schedule of courses, hours, class location and registration procedures is obtainable from the registrar.

**Cross Registration**

Under specific circumstances a graduate student may take one or more graduate courses at Cleveland State University, Kent State University, The University of Akron, or Youngstown State University without registering as a transient student. The course for which a student wishes to register should contribute to the student’s program of study and be available when needed to complete the student’s program at the home institution. The student must be in good standing (GPA=3.0) and within the time limits for degree completion. The graduate program unit at the student’s home institution will establish a graduate special topics or independent study course identification capable of being “tagged” by the home university with a title that will correspond to the course title at the host university and with the initials of that university; i.e. CSU, KSU, or YSU. Registration for such a course is controlled by the home department and will be permitted only upon receipt of an approved Cross Registration form. Cross Registration forms can be obtained online at [http://www.uakron.edu/gradsch/forms.php](http://www.uakron.edu/gradsch/forms.php).

**Financial Assistance**

The University awards a number of graduate assistantships to qualified students. 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 and/or research. For information and applications, contact the department chair or school director. Partial tuition scholarships may be available for first-time graduate students on a limited basis in some departments.

A number of fellowships sponsored by industry and government agencies are available in some departments. For information, contact the chair of the department.

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

Additional information concerning financial aid policies is available in the Graduate Assistant Handbook which can be obtained online at [http://www.uakron.edu/gradsch/docs/gaHandbook.pdf](http://www.uakron.edu/gradsch/docs/gaHandbook.pdf).

**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 85 countries pursue studies and research at The University of Akron.

**Admission**

International students may apply to begin their graduate studies for the Fall, Spring, or Summer Sessions. Students should submit their applications at least six months in advance of the date they wish to begin studying. Graduate students applying for assistantships should submit applications nine months before the term begins for best consideration. The following procedures should be followed:

- Access the online graduate application through the Graduate School website at [http://www.uakron.edu/gradsch](http://www.uakron.edu/gradsch). A non-refundable application fee of $40 must also be submitted.
  - An official transcript and degree from all institutions and universities attended. 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 adequate financial support. An international student should submit to the Office of International Programs, The University of Akron, Polsky Building, Room 483, Akron, OH 44325-3101, 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-20/48) or DS-2019 upon receipt of adequate financial support and admission to the University.
  - International applicants, U.S. citizens, and Permanent Residents whose native language is not English must submit evidence that they have a sufficient level of English to undertake graduate studies at The University of Akron.

After submitting acceptable academic credentials and proof of English proficiency, applicants who are fully admitted may enroll in graduate course work and be eligible for University of Akron-funded assistantships, fellowships, or scholarships. Prospective teaching assistants must also achieve a minimum score of 50 on the Test of Spoken English (TSE) or a passing score on the University of Akron Developed English Proficiency Test (the U-ADEPT), or a 23 or greater on the speaking component of the internet-based TOEFL. See [http://www.ets.org/toefl/uadept/](http://www.ets.org/toefl/uadept/) for information about the TOEFL.

Applicants to graduate programs can demonstrate their English proficiency in one of these ways:

- A minimum score of 550 on the paper-based Test of English as a Foreign Language (TOEFL) or of 213 on the computer-based TOEFL or a 79 or higher on the internet-based TOEFL. (The following departments require a higher standard of proficiency: the Ph.D. program in Urban Studies and Public Affairs requires a TOEFL of 570/230; English and History require a TOEFL of 580/237; and Biomedical Engineering requires a TOEFL of 590/243.) Scores more than two years old will not be accepted. See [http://www.uakron.edu/eli/toefl.htm](http://www.uakron.edu/eli/toefl.htm) for information about the TOEFL.

- A minimum score of 6.5 on the International English Language Testing System (IELTS), which is managed by University of Cambridge ESOL Examinations, British Council, and IDP Education Australia. Scores more than two years old will not be accepted. See [http://www.ielts.org/](http://www.ielts.org/) for information about the IELTS.

- A minimum score of 77 on the Michigan English Language Assessment Battery (ADEPT). Note: Some academic departments require a higher standard of proficiency. See [http://www3.uakron.edu/eliADEPT/uadept/index.html](http://www3.uakron.edu/eliADEPT/uadept/index.html) for details about U-ADEPT.

Financial assistance for international students includes institutional and external scholarships, fellowships, teaching assistantships, or research assistantships. Applicants are encouraged to apply for these funds as early as possible. In some cases, students may be eligible for Federal Student Loans. Federal Student Loans are available to students who meet the eligibility requirements and the creditworthiness standards established by the U.S. Department of Education. For more information about Federal Student Loans, applicants should visit [http://www.studentloans.gov](http://www.studentloans.gov).

Additional information on financial aid options for international students can be obtained from the Office of International Programs.
- Successful completion of a full course of study in the Advanced Level of the English Language Institute (ELI) at The University of Akron. The ELI is an intensive (20 hour a week) program in English for academic purposes. The Advanced Level course of study is offered every Fall, Spring, and Summer according to the university's academic calendar. For details about successful completion and about applying to the English Language Institute, see http://www.uakron.edu/eli.

- Successful completion of 24 credit hours of upper level undergraduate or 18 credit hours of graduate course work at a U.S. university or college in which English is the primary language of instruction. Successful completion is defined as maintaining a 3.0 GPA in full-time, continuous studies. Applicants must submit original transcripts of their course work.

**Costs, Financial Aid, and Medical Insurance**

Information on estimated expenses for international graduate students on F-1/J-1 visas can be found on the form "Declaration and Certification of Finances" (DCF). This form also indicates additional costs for an F-1/J-1 student's dependents; should they accompany or join the student here. Annual tuition and living expenses for the 2006-2007 academic year will be approximately $22,000. Tuition is subject to change.

Graduate students may request financial aid through fellowships and graduate assistantships. A graduate student interested in applying for this aid should request the necessary forms when requesting the admission application.

The University of Akron requires that all international students carry major medical insurance that 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 about one to two weeks before classes begin and costs $60. The orientation dates will be mailed to students with their orientation letter and immigration documents.

**International Transfer Credits**

Transfer credit from foreign institutions is awarded at the discretion of the academic department with the final approval from the Graduate School. Transfer course work is only accepted from institutions that are recognized by the institution's governing academic body (i.e., Ministry of Education). The student must have earned a minimum of a “B” (or its equivalent) to be eligible for transfer credit.

**Academic Reassessment**

A student who meets all the criteria described below may petition the Vice President for Research and Dean of the Graduate School to remove from his/her cumulative grade point average all those grades earned under the student’s prior enrollment at The University of Akron.

- Degree seeking graduate student
- Previous graduate enrollment at The University of Akron
- Not enrolled at The University of Akron for at least five years prior to current enrollment
- Maintain a current graduate grade point average of at least 3.00 or better for the first 15 hours of re-enrollment credit

If the student’s petition is granted, the following will apply to the reassessment policy:

- This policy only applies to the student’s graduate grade point average.
- All University of Akron grades will remain on the student’s official, permanent academic record (transcript); this process will affect the cumulative grade average only. It will not remove evidence/documentation of the student’s overall academic history at the university.
- No grades/credits from the student’s prior graduate enrollment at the university may be counted toward the subsequent degree program requirements. Degree requirements may only be met by courses included in the calculation of the student’s cumulative graduate grade point average at The University of Akron. Thus, the student who successfully petitions for cumulative graduate grade point average recalculation under this policy automatically forfeits the right to use any of the excluded course work toward the current degree requirements.

A student may exercise this graduate reassessment option only once, regardless of the number of times the student enters/attends a graduate degree program at The University of Akron.

**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=x) 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-” 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>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
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<tr>
<td>B-</td>
<td>2.7</td>
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<tr>
<td>C+</td>
<td>2.3</td>
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<tr>
<td>C</td>
<td>2.0</td>
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<tr>
<td>C-</td>
<td>1.7</td>
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<td>D+</td>
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<td>D</td>
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<td>F</td>
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<td>CR</td>
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<td>NC</td>
<td>0.0</td>
</tr>
<tr>
<td>AUD</td>
<td>0.0</td>
</tr>
</tbody>
</table>

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

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

**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 numbers 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.
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 at www.aku.edu/student/afffood, in Caroll Hall 305, or by calling Student Judicial Affairs at 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 print/non-print materials, including work found on the World Wide Web.
- 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 tests, notes, books, calculators or formulas stored in calculators not authorized by the instructor during an examination.
- Providing and/or receiving information from another student other than the instructor, by any verbal or written means.
- Observing or assisting another student's work.
- Violation of the 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 Section 3333.1-10 of the Ohio Revised Code.

A. Intent and Authority

1. It is the intent of the Ohio Board of Regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.

2. This rule is adopted pursuant to Chapter 119 of the Revised Code, and under the authority conferred upon the Ohio Board of Regents by Section 3333.31 of the Revised Code.

B. Definitions

For purposes of this rule:

1. “A resident of Ohio for all other legal purposes” shall mean any person who maintains a 12-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subjected to tax liability under Section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.

2. “Financial support” as used in this rule, shall not include grants, scholarships, and awards from persons or entities which are not related to the recipient.

3. An “institution of higher education” as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the state of Ohio.

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

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

C. Residency for subsidy and tuition surcharge purposes

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

1. A dependent student, at least one of whose parents or legal guardian has been a resident of the state of Ohio for all other legal purposes for 12 consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.

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

3. A dependent child of a parent or legal guardian or the spouse of a person who, on the first day of the 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 par-
ent or spouse is the owner and occupant; or if parent or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that parent or spouse resides at that residence.

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

1. Criteria evidencing residency:
   a. if a person is subject to tax liability under Section 5747.02 of the Revised Code;
   b. if a person qualifies to vote in Ohio;
   c. if a person is eligible to receive state welfare benefits;
   d. if a person has an Ohio driver’s license and/or motor vehicle registration.

2. Criteria evidencing lack of residency:
   a. if a person is a resident 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 residents of Ohio for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

F. Procedures

1. A dependent person classified as a resident of Ohio for these purposes (under the provisions of Section C.1. of this rule) and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the state of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.

2. In considering residency, removal of the student or the student’s parents or legal guardian from Ohio shall not, during a period of 12 months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraphs C.1. or C.2. of this rule.

3. For students who qualify for residency status under C.3., residency status is lost immediately if the employed person upon whom resident student status was based accepts employment and establishes domicile outside Ohio less than 12 months after accepting employment and establishing domicile in Ohio.

4. Any person once classified as a nonresident, upon the completion of 12 consecutive months of residency, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.

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

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

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**Fees**

All fees reflect charges in 2006-2007 and are subject to change without notice.

**Application Fee** (this fee is not refundable under any circumstances)
- Domestic $30.00
- International $40.00
- Domestic Student Reapplication Fee $25.00
- International Student Reapplication Fee $25.00
- Retroactive Continuous Enrollment Requirement Fee $400.00/hr per semester (assessed to doctoral students who are not in compliance with the University's continuous enrollment policy requiring a minimum enrollment of at least one credit hour for each fall and spring semester)

*Graduate Application Fee is deferred for federally funded TRIO program alumni.

**Tuition Fees**

- Resident student per credit $342.47
- CBA student per credit $378.02
- Nurse Anesthesia student per credit $421.00
- Non-resident student per credit $587.50
- Non-resident CBA student per credit $623.05
- Non-resident Nurse Anesthesia student per credit $666.03

* (same fees apply when auditing classes)

**General Fee**

- Per credit hour $13.07 per credit
- Maximum of $156.84 per semester

**Administrative Fee**

- Graduate, transient students $12.00 per term

**Facilities Fee**

- Per credit hour $11.15
- Maximum of $133.80 per semester

**Technology Fee**

- Per credit hour $16.25

**Library Fee**

- Per credit hour $3.00

**Engineering Infrastructure Fee**

- Per credit hour (all Engineering courses) $15.00

**International Executive MBA Program**

- All inclusive tuition, fees, travel, and program costs:
  - Tuition Deposit (Due July 15) $5,000.00
  - First Semester $15,000.00
  - Second Semester $10,000.00
  - Third Semester $10,000.00
  - Application Fee $120.00
  - Waiver Exam Fee $100.00 per exam

**Master of Public Health Program**

- Tuition  $450.00 per credit hour
- Non-resident surcharge $245.03 per credit hour
- Parking $110.00 per semester

* Plus Administrative, Library, Technology, and Facilities Fees

**Master of Fine Arts**

- Tuition  $436.00 per credit hour
- Non-resident surcharge $245.03 per credit hour
- Parking $110.00 per semester

* Plus Administrative, Library, Technology, and Facilities Fees

**Joint Ph.D. in Nursing Program (UA and KSU)**

- Tuition $397,000 per credit hour
- Non-resident surcharge $283,00 per credit hour

**Dissertation Fee:**

- Dissertation I (1-15 credits per semester; maximum 30 cr.) $159.00 per credit hour
- Dissertation II (flat rate) $15.00

**Doctor of Audiology (Au.D.) (UA and KSU)**

- Tuition  $408.00 per credit hour
- Non-resident surcharge $320.00 per credit hour

**Parking Permit Fee**

- Per semester, Fall and Spring (enrolled for any number of credits) $100.00
- Summer Session (one permit good for all sessions) $75.00
- Workshop participants $4.00 per day

**Other Fees**

- Course materials fees – assessed for selected courses to cover the cost of instructional materials. Consult the Registrar’s Office or the appropriate college, department or school regarding specific course material fees for classes.
- The University of Akron Developed English Proiciency Test (U-ADEPT) $125.00
- Miller Analogies Test (Counseling, Testing, and Career Center) $80.00
- Late graduation application fee $100.00

* Administrative fee replaces those fees previously charged for schedule changes, transcripts, and for application for graduation.
Financial Aid

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

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

A graduate student who has already received a bachelor’s degree can apply for the Federal Subsidized and Unsubsidized Stafford Loans. The Federal Pell Grant, Ohio Instructional Grant and Federal Supplemental Educational Opportunity Grant cannot be received. Postbaccalaureate students may only apply for Subsidized and Unsubsidized Stafford Loans.

To apply for the Federal Subsidized and Unsubsidized Stafford Loans, the student must complete and submit the Free Application for Federal Student Assistance (FAFSA) or the Renewal Application to the Federal Processor. Applications are available in January for the following school year. Applications can be completed on the World Wide Web at http://www.fafsa.ed.gov. For technical assistance, call 1-800-801-0576. Inquiries may be directed to the Office of Student Financial Aid, Spicer 119, 330-972-7032 or 1-800-621-3847.

Payment Plan

This plan is designed to spread tuition and University housing fees into installments. To begin the Payment Plan, a non-refundable service charge of $30 and down payment are required along with a signed application. The Payment Plan application and terms and conditions are printable via the Web at www.uakron.edu. Click on “Current Student.” Choose “Student Financials,” “Forms,” “Payment Plan Agreement Form.”

Semester applications are to be received in the office by the close of business on the due date. Anticipated financial aid may be used towards the down payment, requiring you only to submit the difference and/or application fee, along with the signed application. Your balance will be divided into equal installments up to a maximum of four, depending on the semester and sign-up date for the payment plan. All prior obligations and prior term payment plan must be paid in full before the next term application will be approved. Payment Plan payment due dates and amounts can be viewed via the Web at www.uakron.edu. Access the Registration and Information Center, enter student UANET ID and password. Choose “For Students,” “View Account.” It is the student’s responsibility to know when payments are due and to pay on time.

Adjustments or changes to your class schedule will automatically apply to the Payment Plan subject to the withdrawal and refund policies of The University of Akron. A withdrawal from a class does not exempt you from charges for that class if refund is less than 100%. A $25 late charge will be assessed for each partial or full payment made after the established Payment Plan due date.

Questions concerning the Payment Plan can be directed to (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 student interested in a graduate assistantship should contact the appropriate academic department.

International Students

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

Regulations Regarding Refunds

All fees, e.g., instructional, general, parking, etc., are subject to change without notice. Students shall be charged fees and/or tuition and other fees in accordance with 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.

- Student parking fee.
- Laboratory breakage and late service deposit.
- Residence hall fees (note: subject to special policy).
- Technology fee.

Amount of Refund

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

- In full
  - if the University cancels the course;
  - if the University does not permit the student to enroll or continue except for disciplinary reasons. No refund will be granted to a student dismissed or suspended for disciplinary reasons;
  - if the student dies before or during the term; is drafted into military service by the United States; is called to active duty, or if the student enlists in the National Guard or Reserve prior to the beginning of the term. Notice of induction or orders to active duty is required if the student is called to active duty. A student who enlists voluntarily for active duty should see “in part” below.

- In part
  - if the student requests official withdrawal, 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 third week of the semester 20%
    - Thereafter 0%

Refunds for course sections are based in class length. The courses which have not been scheduled consistent with the standard 15 week fall/spring/summer semester will also be handled on a prorated basis according to the number of days of the section (class, institute, workshop) which has passed prior to official withdrawal compared to the number of days said section has been scheduled to meet. If a drop occurs on class day, it is counted as a day attended for the purpose of refund.

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.

Payment of Tuition and Fees/Withdrawal

Tuition and fees for the semester are to be paid or arranged for payment on or before published due dates. Students who receive financial assistance should be aware that they may be responsible for fees. Students will be responsible for assuring that their personal accounts are up-to-date. Payment plans are available for those students who wish to spread payments over an extended period. Students with accounts that are not fully paid or properly arranged for payment by the end of the semester may be prevented from registering for subsequent coursework. If a student enrolls in classes and then decides not to attend, it is still the student’s responsibility to drop his or her classes and to notify the University in order to prevent unnecessary charges.
SECTION 3. Academic Requirements

MASTER’S DEGREE REQUIREMENTS

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

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

Continuous Enrollment Requirements
There is no formal Graduate School continuous enrollment requirement for the master’s degree. Individual master’s programs, however, may require continuous enrollment. Students should consult their advisors 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. An extension of up to one year may be granted in unusual circumstances by the Graduate School upon written request by the student and recommendation by the advisor and department chair.

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 advisor 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 course level as an undergraduate without advance approval from the dean of the Graduate School. “Repeat for change of grade” is not available at the graduate level.

Transfer Credits
Up to one-third of the total credits required for a master’s degree may be transferred from an accredited college or university, including The University of Akron. Departments and colleges may set more restrictive limits. All transfer credit must be at the “A” or “B” level (4.00 to 3.00) in graduate courses. The credits must be relevant to the student’s program as determined by the student’s academic department. A University of Akron student who seeks to enroll in courses elsewhere for transfer credit here must receive 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 credit from other institutions shall not be computed as part of a student’s University of Akron grade point average.

Individual course transfer of credit must fall within the six-year time limit to complete degree requirements. A block transfer of credit may be requested if a student has a prior graduate degree from an accredited college or university, including The University of Akron. A block transfer of credit does not apply toward the student’s six-year time limit to complete the degree.

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 chair 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 can be obtained online at http://www.uakron.edu/gradsch/forms.php, from the academic department, or from the Graduate School.

Students must submit an Advancement to Candidacy form to the departmental office by the following dates:
- September 15 for Spring Commencement
- February 15 for Summer Commencement
- May 15 for Fall Commencement

Graduation
To be cleared for graduation, a candidate must have completed coursework with a minimum cumulative graduate grade-point 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, a candidate must meet the preliminary and final thesis deadlines; submit one original, signed thesis signature page to the Graduate School; and submit one electronic copy of the thesis to OhioLINK. A manual entitled Guidelines for Preparing a Thesis or Dissertation can be obtained online at http://www.uakron.edu/gradsch/gdnThesDiss.php.

DOCTORAL DEGREE REQUIREMENTS*

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

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

A minimum grade-point average of 3.00 is required for graduation of a candidate for all doctoral degrees.

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

The minimum residence requirement for a doctoral candidate in all programs is at least two consecutive semesters of full-time study and involvement in departmental activities. Full-time study is defined as 9-15 semester credits, except for graduate teaching and research assistants for whom full-time study is specified by the assistantship agreements. The summer sessions may count as one semester, provided that the candidate is enrolled for a minimum total of six semester credit hours per combined summer terms. Individual programs may have additional residence requirements such as credits or courses to be completed, proper 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.

Academic Requirements 25
Continuous Enrollment Requirement

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

Time Limit

All doctoral requirements must be completed within 10 years of starting coursework at The University of Akron or elsewhere. This refers to graduate work after receipt of a master’s degree or the completion of 30 semester credits. Extensions of up to one year may be granted by Graduate School under unusual circumstances upon written request by the student and recommendation by the advisor and department chair.

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 90 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 advisor 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-number course level as an undergraduate. Exception: transfer credits from a single master’s degree. A block transfer of credit does not apply toward the completion of degree requirements. A block transfer of credit may be requested if a student has earned a University of Akron grade point average of 3.00 or better. Transfer credits shall not be computed as part of a student’s University of Akron grade point average.

Transfer Credits

Up to one-half of the total credits above the baccalaureate required in a doctoral program may be transferred from an accredited college or university, including The University of Akron. Departments and colleges may set more restrictive limits. All transfer credit must be at the “A” or “B” level (4.00 to 3.00) in graduate courses. The credits must be relevant to the student’s academic program as determined by the student’s academic department. A University of Akron student who seeks to enroll in courses elsewhere for transfer credit must receive 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.

Individual course transfer or credit must fall within the ten-year time limit to complete degree requirements. A block transfer of credit may be requested if a student holds a prior graduate degree from an accredited college or university, including The University of Akron. No more than 30 semester credits may be transferred from a single master’s degree. A block transfer of credit does not apply toward the student’s ten-year time limit to complete the degree.

Language Requirements*

There is no University-wide foreign language requirement for the doctoral degree. 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 college-level courses 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 computers) may be substituted for one of the two foreign languages. Under the last option, each department should define competence and publicize.
- Plan B: Comprehensive knowledge of one approved foreign language, including reading without the aid of a dictionary and such additional requirements as the department may impose.
- Plan C: In certain doctoral programs (counseling and guidance, elementary education, engineering, psychology, secondary education, urban studies and public affairs) the demonstration of competence in appropriate research skills may serve as a substitute for the foreign language requirement.

*The Doctor of Audiology (Au.D.) does not have a 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 can be obtained online at http://www.uakron.edu/gradsch/gdlnThesDiss.php, from the academic department, or from the Graduate School.

Students must submit an Advancement to Candidacy form to the departmental office by the following dates:

- September 15 for Spring Commencement
- February 15 for Summer Commencement
- May 15 for Fall Commencement

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.

To be eligible to graduate during any given term, a candidate must meet both the preliminary and final dissertation submission deadlines. Each candidate is responsible for consulting the Schedule of Classes, their advisor/department, or the Graduate School to determine these deadlines.

A draft copy of the dissertation is due in the Graduate School prior to the preliminary deadline. The candidate must submit one original, signed dissertation signature page to the Graduate School and submit one electronic copy of the dissertation to OhioLINK. A manual entitled Guidelines for Preparing a Thesis or Dissertation can be obtained online at http://www.uakron.edu/gradsch/gdlnThesDiss.php, and the dissertation must conform to these instructions.

*The Doctor of Audiology (Au.D.) does not require a dissertation.

Graduation

To be cleared for graduation, a candidate must have completed the academic program with a minimum cumulative graduate grade-point average of 3.00; been advanced to candidacy; met the preliminary and final dissertation deadlines; submitted one original, signed dissertation signature page to the Graduate School; submitted one electronic copy of the dissertation to OhioLINK; passed an oral examination; filed an application for graduation with the registrar; paid all applicable fees; and met any other department and University requirements.
SECTION 4. Graduate Studies

Buchtel College of Arts and Sciences

Ronald F. Levant, Ph.D., Dean
Annabelle Foos, Ph.D., Associate Dean
Charles B. Monroe, Ph.D., Associate Dean

Objectives

The Buchtel College of Arts and Sciences serves the objectives of the University, which is to develop enlightened members of society. To this end the college seeks to foster the commitment to humanity, the nurture of civility, and the advancement of knowledge.

The Buchtel College of Arts and Sciences has three administrative divisions: Humanities, Natural Sciences, and Social Sciences. The Humanities Division includes the departments of Classical Studies, Anthropology, and Archaeology; English; Modern Languages; and Philosophy. In these disciplines students learn about the evolution of diverse civilizations, their languages, literatures, cultures, and their lasting contributions to our accumulated wisdom.

The Natural Sciences Division includes the departments of Biology, Chemistry, Computer Science, Geology and Environmental Science, Physics, Theoretical and Applied Mathematics, and Statistics. Students will explore physical and biological aspects of the world and learn to understand mathematics, the language of science. Their investigations will range from the characterization of molecules to mapping the expanse of the universe. They will learn about 3.5 billion years of Earth’s history and the science that will create the technology of the future.

The Social Sciences Division includes the departments of Economics, Geography and Planning, History, Political Science, Psychology, Public Administration and Urban Studies (graduate only), and Sociology. In these disciplines students observe individuals, closely knit organizations, whole cultures developing over the centuries (sometimes at peace and sometimes at war), the economic and geographical realities affecting these populations, and the ways societies organize themselves for harmony, protection, and prosperity.

The Buchtel College of Arts and Sciences is beginning a process of re-visioning its place in Northeast Ohio, the nation, and the world in the early part of the 21st century. We will facilitate the development of new programs that are responsive to the needs of our students.

Qualified students seeking hands-on exploration experiences can enroll in internships and co-op opportunities. Students wishing to enrich their majors by completing a certificate, a minor, or a double major are encouraged to do so. Interdisciplinary studies are readily available to Arts and Sciences students through the Humanities Division major, the Natural Sciences Division major, the Social Sciences Division major, and the Bachelor of Arts in Interdisciplinary Studies program. To guide students through the rich landscape of the Buchtel College of Arts and Sciences there are knowledgeable department program advisors waiting to discuss ways to achieve academic goals by which students can realize their personal and career ambitions.

DOCTOR OF PHILOSOPHY DEGREE

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

Doctor of Philosophy in Chemistry

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

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

Interdisciplinary Option in Chemical Physics

The faculty in the Departments of Chemistry and Physics jointly offer an option leading to a Ph.D. in Chemistry for students who elect the interdisciplinary field of chemical physics.

Admission Requirements

Applicants for the Chemical Physics Option may be admitted with either a baccalaureate or a master’s degree, in either chemistry or physics. All applicants must have their graduate application and credentials evaluated by the Chemistry Department. All admission requirements for the Doctor of Philosophy in Chemistry, as given in this Graduate Bulletin, shall apply to applicants for admission to the Chemical Physics Option.

Graduate students in good standing in the Physics Department may apply for admission as above. Successful applicants should have some advanced chemistry course work (200-level and above) and endorsement by the chair of the Physics Department.

Degree Requirements

The applicable degree requirements for the Chemical Physics option are those of the Doctor of Philosophy in Chemistry, as stated in the Graduate Bulletin. These degree requirements consist of the following:

• complete a course of study designed in consultation with an advisor or advisory committee, consisting of at least 90 credits beyond the baccalaureate degree, including 24 credits of appropriate chemistry coursework and approved physics electives;
• complete the requirements of the monthly cumulative exams, the oral exam, and the seminar;
• defend the dissertation in an oral examination;
• complete all general requirements for the Doctor of Philosophy degree.

Students entering with the endorsement of the Physics Department must choose an advisor in the Physics Department holding a joint appointment in Chemistry; other students must select as research advisor a participating faculty member in the Chemistry Department. Students entering the program with principle prepa-

ration in physics may be required to audit certain undergraduate prerequisites for chemistry graduate courses, and visa versa for students whose principle prepara-

tion is in chemistry.

Doctor of Philosophy in Integrated Bioscience

The Departments of Theoretical and Applied Mathematics, Biology, Biomedical Engineering, Chemical and Biomolecular Engineering, Chemistry, Civil Engineering, Computer Science, Physics and Polymer Science offer a joint Ph.D. program in Integrated Bioscience. Students admitted to the program take three core courses in Integrated Bioscience and then take a mixture of courses from the various participating departments. Students are required to incorporate an integrative aspect to their biologically-based research project that will necessitate using information from multiple disciplines, and all students will have advisors on their committees that include faculty from two or more of the participating departments.

This program is designed to train students to understand modern biology in the context of integrated biological systems. This program will combine modern biology, bioengineering, bioinformatics, biochemistry, and biopolymers with the central unifying theme of connection across levels of biological organization. The program is composed of six areas of excellence: (1) molecular cell biology and genetics; (2) physiology and organismal biology; (3) ecology and evolutionary biology; (4) biochemistry and biopolymers; (5) bioinformatics and computational biology; and (6) bioengineering. Integrating information drawn from these areas of excellence will provide students with high-demand, specific skills as well as allow them to develop integrative thinking and problem-solving expertise that will be crit-

ical for progressing in the ever expanding realm of biosciences.

Admission Requirements

The applicant must meet the University admission requirements and have an undergraduate degree from an accredited institution. Applicants must submit GRE scores, three letters of recommendation, a statement of career goals and research interests, and note up to five faculty (rank-ordered) which they would be interested in having as their faculty advisor(s). Applicants are encouraged to contact their prospective Ph.D. advisors prior to submitting their formal applications. International students should contact The University of Akron Graduate School for specific admission requirements. Applications will be ranked according to:

• Strong academic background as evidenced by grade point average of at least 3.0
• GRE scores (general GRE score at the 50th percentile or above)
• Strong letters of recommendation
• Willingness of one or more potential advisors to take student on as an advisee
Doctor of Philosophy in Counseling Psychology

The University of Akron offers a doctoral program in Counseling Psychology. The Collaborative Program in Counseling Psychology allows students to choose a major focus in psychology, but the student must fulfill both Departmental and Graduate School admission requirements.

Students in both departments are expected to attain a level of broad scientific competence in the core areas of psychology, the biological, social, cognitive-affective, and individual bases of human behavior. Practicum and internship experiences are also required of all students and range from skill building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding the emphasis, orientation, and coursework for the Psychology Department entry point is included below. Students receive exposure to both colleges through shared coursework and faculty involvement with exams and dissertations.

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

Admission to the Collaborative Program in Counseling Psychology is handled through the department associated with the student’s chosen entry point. Students must fulfill both Departmental and Graduate School admission requirements.

Departures from the described program for Psychology Department entry may be made only with the approval of the counseling psychology program faculty.

Requirements

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

- Psychology core courses (60, 620, 630, 640, 650) 10
- Counseling psychology core courses (707, 709, 710, 711, 712, 713, 714, 715, 717) 33
- Practicum sequence (7672 [2+2+2+2], 7673 [2+2+2+2], 795 [4+4], 796 [4+4]) 32
- History, measurement, and developmental coursework (718, 727, 750) 8
- Electives (minimum) 6
- Statistics (601, 602) 8
- A statistics sequence that may be substituted for the doctoral language requirement 8
- Thesis credits (minimum) 1
- Dissertation credits (minimum) 12

A thesis or thesis waiver completed as specified in the Graduate Student Manual of the Department of Psychology.

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

Doctor of Philosophy in History

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

- Fulfill admission requirements of the Graduate School.
- Fulfill all general requirements for the Doctor of Philosophy degree.
- 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 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.

The doctoral program in Applied Cognitive Aging is not currently accepting applications for new graduate students.

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;
  - 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 at least a 3.5 GPA in core courses and overall courses;
  - Completion of additional required and elective courses to be planned in conjunction with the student’s faculty advisor and subject to approval by the industrial/organizational or applied cognitive aging committees;
- Written comprehensive examinations:
  - Satisfactory performance on doctoral written and oral comprehensive examinations in the student’s major area of industrial/organizational psychology or applied cognitive aging (refer to the department’s graduate student manual).
- Dissertation research:
  - Completion of 3750:899 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**

**Akron-Kent Joint Ph.D. Program**

The University of Akron and Kent State University departments of sociology offer a joint program leading to the Ph.D. degree. Faculty and students engaged in the joint doctoral program are for all intents and purposes involved in a single graduate program. 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 general exam of the Graduate Record Examination (GRE) are required as part of the doctoral application. Admission is limited to students whose records clearly indicate both scholarly and research potential.

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

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

- Take the following course:
  - 3850:700 College Teaching of Sociology
- Take one doctoral-level course in theory. This course to be selected from the predetermined group of courses (see Department of Sociology graduate student handbook).
- Complete a doctoral-level course in statistics from the predetermined group of courses. (see the department’s graduate student handbook).
- Complete a specialty of 9 to 12 credits, depending on the specialty chosen.
- Complete a minimum total of 30 credits in coursework.
- Comprehensive Examination in theory, methods and statistics, and a specialty area (medical sociology, sociology of family, social psychology, or social inequalities).
- Full residency requirement of the Graduate School.
- 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 and Public Affairs**

The Department of Public Administration and Urban Studies offers a program leading to the Ph.D. in Urban Studies and Public Affairs. This is a joint program with Cleveland State University Levin School of Urban Studies. 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 educate scholars interested in university or professional careers in the fields of public administration and urban affairs with particular emphases on public administration, urban policy, and policy analysis and evaluation.

**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:

- Completion of a master’s degree.
- Grade Point Average GPA from master’s degree above 3.5. However, having a GPA above 3.5 is not in itself sufficient for admission.
- Submission of official test results on the verbal and quantitative portion of the Graduate Record Examination General Test. Official results from other, equivalent standardized tests used for graduate admissions may be substituted.
- Three letters of recommendation from persons familiar with the applicant’s recent performance and abilities.
- A sample of the student’s academic work. This should be a thesis or final project paper from the master’s degree program.
- A personal statement from the applicant detailing the intended area of specialization and career aspirations. An applicant will be admitted only if faculty resources are available in the area of specialization detailed by the applicant.
- Those applicants for whom English is not their native tongue must demonstrate proficiency in the English language by scoring a minimum of 570 on the Test of English as a Foreign Language (TOEFL), submitting an acceptable score on the Test of Written English (TWE) and by scoring a minimum of 220 on the Test of Spoken English (TSE).

**Degree Requirements**

A minimum of 64 credit hours are required to complete this degree. A required core of methods and foundational courses totaling 25 credit hours, a field study or specialization area of 27 credit hours, and 12 credit hours of dissertation. The department offers two specializations: Public Administration and Applied Policy.

- Core Requirements (25 credits):
  - 3980:700 Advanced Research Methods I
  - 3980:701 Advanced Research Methods II
  - 3980:705 Economics of Urban Policy
  - 3980:708 Urban Policy: The Historical Perspective
  - 3980:710 Qualitative Research Methods
  - 3980:716 Theoretical Foundations for Public Affairs
  - 3980:760 Survey Research Methods
  - 3980:780 Ph.D. Colloquium
  - 3980:795 Pro-Seminar

Refer to the Departmental Graduate Student Handbook for detailed description of requirements or contact the Ph.D. Coordinator for further information.

**MASTER’S DEGREES**

Programs of advanced study leading to the master’s degree are offered by the departments of biology, chemistry, computer science, economics, English, geography and climatology, geology (earth science), history, mathematics, modern languages (Spanish), physics, political science, psychology, sociology, statistics and public administration 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 for graduate assistantship
- Submit scores for Graduate Record Examination (25 percentile or higher required on Advanced Biology Test)
- Submit a letter of proposed area of specialization within biology
- Non-active speakers of English must submit a TSE minimum score of 50 or a passing score on The University of Akron approved test of spoken English

**Master of Science**

**Thesis Option I**

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

- Course work in addition to the master’s research and seminars (must be approved by the student’s advisory committee) – 24 credits.
- Research and thesis – minimum of 12 credits.
- Participation in seminars – a maximum of four credits.

A minor may be taken in approved graduate courses including education. Summer study at a biological station is available.
**Advanced Computer Science Test** is recommended.

The **Aptitude Test of the Graduate Record Examination** is required, and the GRE will 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, the ability to write a simple program to solve a specified problem.

To be considered for admission, the applicant must have earned a baccalaureate degree in computer science or a related discipline and have completed approximately 12 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**.

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**Chemistry**

**Master of Science**

- Chemistry coursework – with the approval of the advisor, up to 12 credits may be taken in related areas – 24 credits.
- Research and thesis – six credits.
- Participation in departmental seminars.

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**Computer Science**

**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 provisional admission.

The Aptitude Test of the Graduate Record Examination is required, and the GRE Advanced Computer Science Test 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 non-thesis option requires 33. With prior consent, up to 3 credits of approved graduate-level coursework outside the department may be substituted for elective courses in both the thesis and non-thesis options.

- Core Courses (required of all students):
  - 3460:535 Analysis of Algorithms
  - 3460:635 Advanced Algorithms and Complexity Theory

In addition, each student must complete at least one course from each of the following three areas:


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

- 24 credits in approved coursework, at least 15 credits of which must be taken at the 600 level.
- 3 credits in 3460:698 and 3 credits in 3460:699 Master’s Thesis. The thesis must be of publishable quality and must be successfully presented at a public defense moderated by three full time Graduate Faculty (two of which must be from Computer Science).

**Non-thesis Option** (33 credits of graduate work)

- 30 credits in approved coursework, at least 18 credits of which must be taken at the 600 level. In addition, 3 credits in 3460:699. The student shall complete an independent project supervised by a faculty advisor and approved by a committee consisting of the advisor and a faculty reader. The student must also pass a written comprehensive examination, taking the form suggested by the department.

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**Cooperative Education Program in Computer Science**

**Admission**

Arrangements for student entry into the program are on an individual basis, and must be initiated by the student. The Cooperative Education Program is an optional program available only to full-time Computer Science students at The University of Akron who have satisfactorily met the following requirements:

- completion of at least 18 credits in computer science applicable to the master’s degree with a grade point average of at least 3.0 out of 4.0;
- acceptance by a cooperative education coordinator or director following interviews;
- a transfer student must have completed at least 9 credits in computer science at The University of Akron with a grade point average of at least 3.0 out of 4.0.

A student who desires to participate in the program will fill out an application and submit it to the cooperative education office. The student will then meet with a member of the cooperative education staff to discuss the availability of prospective employers. During this interview, the student will be asked to sign a Student Agreement which will become effective upon employment. Employment must be coordinated or have approval of the department and the cooperative education director. The University does not guarantee employment for the student. The student will be expected to remain with the employer during the time period specified by the Student Agreement.

**Registration**

While no academic credits are assigned, each student must register for 3300:501 Cooperative Education in the same manner that a student registers for any other University course. See department advisor before enrolling for this course.

A cooperative program fee for each work period is charged. Upon completion of a work period, a statement will appear on each student’s official transcript listing the course number, title and name of the employer. In the place of a letter grade, “credit” or “no credit” will be given, depending on the student’s satisfactory or unsatisfactory completion of the following:

- work performance as evaluated by the employer;
- progress report written by the student during the work period;
- written work report as approved by the department chair and cooperative education staff.

Usually, work progresses satisfactorily on the job and a grade of “credit” is assigned at the end of the semester. If all the above conditions are not met, a grade of “no credit” will be submitted.

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**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.

**Non-thesis Option**

A minimum of 30 credits of coursework is required. At least 21 credits must be at the 600 level in economics.

**Required Courses for both options:**

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

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

Exceptional departures from these requirements may be approved with the permission of the graduate faculty and department chair. Courses taken outside the department must be approved in writing by the student’s advisor prior to enrollment.
English

Master of Arts – Literature Track

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.

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.

Required Courses for Both Options

- 3300:506 Chaucer†
- 3300:570 History of the English Language†
- 3300:670 Modern Linguistics†
- 3300:615 Shakespearean Drama†
- 3300:685 Literary Criticism

At least one course in four of the following five categories is required:

- British
- American

Up to 1660
1660-1900
1900-present

Master of Arts – Composition Track

The Composition Track is intended for students interested in teaching English in secondary schools, two-year colleges, 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 Curricular and Instructional Studies 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, rhetoric, and linguistics). 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, rhetoric, and linguistics). Of the 36 credits of coursework, 21 must be at the 600 level.

Required courses for both options:

- 3300:673 Theories of Composition
- 3300:674 Research Methodologies in Composition
- 3300:689 New Rhetorics

Students must also choose one of the following two courses:

- 3300:589 Grammatical Structures of Modern English
- 3300:670 Modern Linguistics

And one of the following three courses:

- 3300:625 Autobiographical Writing
- 3300:669 Management Reports
- 3300:679 Scholarly Writing

Optional courses:

- 3300:689 Contemporary Reading Theory
- 3300:689 Composition and Rhetoric
- 3300:689 Cultural Studies in Composition Theory
- 3300:689 Literature and Composition

†Unless the student has passed a comparable course at the undergraduate level with a grade of “B” or better.

Master of Fine Arts in Creative Writing

The University of Akron, Cleveland State University, Kent State University, and Youngstown State University offer jointly the MFA in Creative Writing. This degree provides students with opportunities to develop their skills in writing fiction, poetry, drama, and creative non-fiction. It is the terminal degree. Through extensive practice in workshops and craft and theory courses, students will develop their creative writing abilities while also studying literature and completing a relevant internship.

Admission Requirements

Students must be accepted by the Graduate School at The University of Akron or one of the other three participating universities. They must also submit three let-
ters of recommendation, transcripts, and a writing portfolio. The portfolio will be reviewed by an admissions committee of members from all four universities.

Degree Requirements

Students must complete the following courses among the participating universities:

- Writing Workshops - 15 credits
- Craft and Theory Courses - 6 credits
- Literature Courses - 9 credits
- Internship - 3 credits
- Thesis - 6 credits
- Electives - 9 credits

A total of 48 credit hours is required for the MFA in Creative Writing.

Geography and Planning

Master of Arts in Geography

Thesis Option

- A minimum of 45 graduate credits, to include no more than 3 credits of independent study (3350:698).
- Core Requirements – (21 credit hours)
  - 3350:505 Geographic Information Systems
  - 3350:581 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:596 Field Research Methods
  - 3350:687 History of Geographic Thought
- Thesis
  - At least 9 credits and no more than 15 credits of 3350:699.
  - Electives
- Courses to total at least 45 credits.

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

Nonthesis Option

- A minimum of 45 graduate credits, to include no more than 3 credits of independent study (3350:698).
- Core Requirements – (21 credits)
  - 3350:505 Geographic Information Systems
  - 3350:581 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:596 Field Research Methods
  - 3350:687 History of Geographic Thought
- Electives – (21 credit hours)
- Additional Electives – (3 credit hours)

Seven courses with at least 4 from either the Environmental concentration or the Urban/Economic concentration.

GIS/Remote Sensing

- 3350:507 Advanced Geographic Information Systems
- 3350:540 Principles of Cartography
- 3350:542 Thematic Cartography
- 3350:544 Applications in Cartography and GIS
- 3350:547 Remote Sensing
- 3350:548 Advanced Cartography Lab
- 3350:549 Advanced Remote Sensing Lab
- 3350:680 Advanced Spatial Analysis

Environmental

- 3350:515 Environmental Planning
- 3350:532 Land Use Planning Law
- 3350:533 Practical Approaches to Planning
- 3350:571 Medical Geography and Health Planning
- 3350:595 Soil and Water Field Studies

Urban/Economic

- 3350:520 Urban Geography
- 3350:522 Transportation Systems Planning
- 3350:528 Industrial and Commercial Site Location
- 3350:536 Urban Land Use Analysis
- 3350:539 History of Urban Design and Planning
- 3350:550 Development Planning
- 3350:633 Comparative Planning

Any course taken outside the department must be approved in advance by the student’s Graduate Advisor or the Department Chair.
**Master of Science in Geography/Geographic Information Sciences**

**Thesis Option**
- A minimum of 45 graduate credits, to include no more than 3 credits of independent study (3350:698).
- Core Requirements (15 credits)
  - 3350:581 Research Methods in Geography and Planning
  - 3350:596 Field Research Methods
  - 3350:600, 601, or 602 Seminar (3 credits)
- Techniques Requirements (9 credits)
  - 3350:515 Environmental Planning
  - 3350:520 Urban Geography
  - 3350:538 Land Use Planning Methods
  - 3350:539 History of Urban Design and Planning
  - 3350:581 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:630 Planning Theory
  - 3350:631 Facilities Planning
  - 3350:630, 601, 602 Seminar (3 credits)
- Electives
  - Courses to total at least 45 credits.

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

**Nonthesis Option**
- A minimum of 45 graduate credits plus internship (3350:685).
- Core Requirements (30 credits)
  - 3350:505 Geographic Information Systems
  - 3350:532 Land Use Planning Law
  - 3350:537 Planning Analysis and Projection Methods
  - 3350:538 Land Use Planning Methods
  - 3350:539 History of Urban Design and Planning
  - 3350:581 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:630 Planning Theory
  - 3350:631 Facilities Planning
  - 3350:630, 601, 602 Seminar (3 credits)
- Electives – (15 credits)
  - Five courses, with at least three in one area.

**GIS/Remote Sensing**
- 3350:507 Advanced Geographic Information Systems
- 3350:542 Thematic Cartography
- 3350:544 Applications in Cartography and GIS
- 3350:548 Advanced Cartography
- 3350:549 Advanced Remote Sensing
- 3350:680 Advanced Spatial Analysis

**Geologic Electives**
- 3350:557 Environmental Planning
- 3350:561 Urban Geography
- 3350:571 Medical Geography and Health Planning
- 3350:593 Soil and Water Field Studies

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

**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.
- A proficiency exam is taken during the student’s first semester in the M.S. program. Students who demonstrate a lack of knowledge in areas related to their thesis topics may be required to take additional or remedial courses as suggested by the examining committee. Students may not begin formal thesis work until the proficiency exam has been completed. Formal thesis work includes the thesis proposal and/or thesis research credits. Field camp can be taken for graduate credit; however, it will not count toward the 30 credits for the M.S. in the geology and geophysics specializations.
- Core Requirements:
  - 3370:680 Seminar in Geology 2
  - 3370:699 Master’s Thesis 6
- Oral presentation and defense of thesis.

**Degree Specialization**

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

**Geology**

The minimal background for admission without deficiency should include a six-credit geology field camp course and equivalents to courses in mineralogy, petrology, structural geology, sedimentology/stratigraphy, and any two upper level geology courses. Students should have completed the equivalent of a minimum of six semester courses in introductory chemistry, physics, biology, calculus or equivalents; including at least one semester of calculus, physics and chemistry. All courses should be taught for science/mathematics/engineering majors.

The academic background of each incoming graduate student will be reviewed during the student’s first semester by the graduate advisor, thesis advisor, and department chair to determine whether background deficiencies exist for his/her planned program of study.
Earth Science
Equivalents of the current geology courses for the University’s B.A. in geology are required. Course program will be selected to provide the student with a well-rounded background in lithosphere, hydrosphere and atmosphere. Those who will be teachers must take 5500:790 Seminar in Curricular 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 4
- 3370:210 Geomorphology 3
- 3370:320 Structural Geology 4
- 3450:221,2,3 Analytical Geometry Calculus I, II, III 12
- 4300:201 Statics 3
- 4300:202 Introduction to Mechanics of Solids 3
- 4300:313 Soil Mechanics 3
- 4300:314 Geotechnical Engineering 3

• Required courses:
  - Graduate Geology Courses 18
  - Graduate Engineering Courses 8

Environmental Geology
Equivalents of the University’s B.S. degree in natural science (biology, chemistry, geology, mathematics, or physical 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 580 on the Test of English as a Written Language (TOEFL), at least 240 on the Test of English as a Spoken Language (TSE), and take the Test of Written English (TWE).

• Degree requirements include:
  - Satisfactory completion of a minimum of 30 credits of graduate study in history, of which only six may be in individual reading.
  - Concentrated study of three fields, two of which must be chosen from the following:
    - Ancient
    - Medieval
    - Europe, Renaissance to 1750
    - Europe, 1750 to the Present
    - South Asia
    - Middle East
    - Africa
  - 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.

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:
  - 3650:551 Advanced Laboratory I 3
  - 3650:615 Electromagnetic Theory I 3
  - 3650:625 Quantum Mechanics I 3
  - 3650:641 Lagrangian Mechanics 3
  - 3650:661 Statistical Mechanics 3
  - 3650:685 Solid-State Physics I 3

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 6
  - 3650:616 Electromagnetic Theory II 3
  - 3650:626 Quantum Mechanics II 3
  - 3650:552 Advanced Laboratory II 3

A student must complete at least one of the following two options:
  - Option A: A formal report, based on an original research project, submitted in a form suitable for publication and approved by a physics faculty committee.
  - Option B: 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 total of 30 graduate credits required.

Interdisciplinary Option: Chemical Physics
The faculties in the Departments of Physics and Chemistry offer a cooperative option leading to the Ph.D. in chemistry for those graduate students wishing to specialize in the interdisciplinary field of chemical physics.

Admission Requirements
Applicants may be admitted with either a baccalaureate or a master’s degree in either chemistry or physics. Students pursuing this option are subject to all admission and degree requirements for the Ph.D. in chemistry, as outlined in page 25 of this Graduate Bulletin. The Chemical Physics option is described in detail on page 27.

Students entering the Chemistry Ph.D. program under the auspices of the Physics Department will be expected to have taken some advanced undergraduate chemistry course work (200-level and above), and must be recommended by the chair of the Physics Department. These students must select as research advisor a faculty member in the Physics Department holding a joint appointment in Chemistry. Students with principle preparation in physics may be required to audit certain undergraduate prerequisites for graduate chemistry courses.

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. Three letters of recommendation (at least one from a faculty member who has worked with the student in the past two years, if applicable) and a personal statement outlining the expected fit between the student’s skills and objectives and the depart-
ment's programs and resources are required. The Graduate Record Examination (GRE) is recommended, but not required.

The Master of Arts in Political Science allows students to focus their study in one of six concentrations: American Government Institutions, American Linkage Institutions, The Politics of Criminal Justice, International Politics, Comparative Politics, or Political Theory.

Students may also work toward certificates in Applied Politics in conjunction with their graduate studies in Political Science.

Degree Requirements

• Complete 30 credits of graduate work, including 18 credits at the 600 level, as follows:
  Two required core courses:
  3700:600 Scope and Theory of Political Science 3
  3700:601 Research Methods in Political Science 3
  Three additional departmental seminars, 9 credits (neither independent research, thesis, nor internship is considered a graduate seminar).

Six credits of Topics in Master’s Research (3700:696).

Nine additional credits at the graduate level.

• Pass a comprehensive written examination covering one concentration: American Government Institutions, American Linkage Institutions, The Politics of Criminal Justice, International Politics, Comparative Politics, or Political Theory.

• Complete the following writing requirement:
  An Essay of Distinction is a single, article-length, scholarly essay. This writing requirement will encourage our students to learn how to participate in the debates central to our discipline and complete the program with a superb writing sample that can serve as a foundation for continued graduate work, a conference presentation, a published article, or a deliverable policy analysis.

To complete an Essay of Distinction, students shall take six credit hours of Topics in Master’s Research with the chair of their three-member Faculty Advisory Committee. Those credits must be completed in the form of two consecutive three-credit courses (3700:696) taken in the student’s third and fourth semesters. The student’s Faculty Advisory Committee must approve the topic and completed essay.

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. Three letters of recommendation (at least one from a faculty member who has worked with the student in the past two years, if applicable) and a personal statement outlining the expected fit between the student’s skills and objectives and the department’s programs and resources are required. 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 - 18 credits:
  3700:570 Campaign Management I 3
  3700:571 Campaign Management II 3
  3700:600 Scope and Theory of Political Science 3
  3700:601 Research Methods in Political Science 3
  3700:672 Seminar; Political Influence and Organizations 3
  3700:696 Internship in Government and Politics
  * Three credits required: additional credits will be counted toward elective credit.
  * Elective courses - 21 credits (6 credits must be at the 600-level)
  Six credits from the following:
  3700:540 Survey Research Methods 3
  3700:572 Campaign Finance 3
  3700:574 Political Opinion, Behavior, and Electoral Politics 3
  3700:577 Lobbying 3
  3700:655 Campaign and Election Law 3
  7600:575 Political Communication 3
  Fifteen credits of additional course work from above or from approved courses in Political Science, Communication, Public Administration, or other departments.
  • Prepare an applied politics portfolio containing:
    - At least two major papers prepared for required courses.
    - An applied politics capstone project assigned by the student’s advisor.
  • Pass an oral defense of the applied politics portfolio.

J.D./Master of Applied Politics

This joint J.D./Master of Applied Politics degree combines the two degrees while allowing students to complete requirements with fewer credits than taking the degrees separately. To be accepted into the program, a student must meet the admission requirements of the School of Law, the Graduate School, and the Department of Political Science.

Degree Requirements

Students must complete the following:

• J.D. required courses - 44 credits
• MAP required courses - 24 credits (18 credits core courses; 6 credits required electives)
• Joint Law School/Political Science Course - 3 credits

At least three credits from the following courses:

9200:623 Administrative Law
9200:642 Alternative Dispute Resolution
9200:644 First Amendment Law
9200:646 Non-Profit Tax Entities
9200:659 Negotiation
9200:662 Media Law
9200:664 Local Government Law
9200:684 Selected Legal Problems
9200:698 Individual Studies and Research

• MAP Electives - 6 credits

Choose two from the following courses:

3700:502 Politics and the Media
3700:540 Survey Research Methods
3700:572 Campaign Finance
3700:574 Political Opinion, Behavior, and Electoral Politics
3700:577 Lobbying
3700:620 Seminar in Comparative Politics
3700:630 Seminar in National Politics
3700:668 Seminar in Public Policy Agendas and Decisions
3700:690 Special Topics in Political Science (Applied Politics focus)
3700:696 Internship in Government and Politics

Psychology

Master of Arts

• Fulfill admission requirements of the Graduate School and the following departmental requirements:
  - psychology major or minimally the 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.

• Course 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. content 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 number of credits of graduate work, including thesis, as follows: Industrial/Organizational program, 39 credits.

Nonthesis Option

Completion of coursework, practicum and examinations (no thesis required), with a minimum number of credits of graduate work for each program as follows: Applied Cognitive Aging program, 37 credits; Counseling program, 44 credits; and Industrial/Organizational program, 41 credits.
## Public Administration and Urban Studies

### Master of Arts in Urban Studies

The master’s degree focus is on applied policy. Students receive a contextual grounding of analysis methods and organization implementation methodology for areas of specialization.

#### Admission

Admission is open to students who have completed an undergraduate (bachelor’s) degree. No specific field of undergraduate major is required for admission. The GPA requirements for consideration for full admission is an overall bachelor GPA of 2.8 or greater, or 3.05 for the last 60 credit hours. Provisional admission may be granted for those with an overall GPA between 2.5 and 2.79. Additionally, applicants must submit the following:

- For students who have an overall GPA below 3.0 a standardized test score from the GRE, GMAT, or LSAT
- A copy of their current resume (especially important for in-service students to ascertain their professional experience).
- A personal essay explaining why they study and completion of a MA degree will help them with their personal or professional goals.

Admission decisions are made by the department committees as explained in the PAUS Master’s Handbook.

#### Degree Requirements

Satisfactory completion of a minimum of 33 credit hours of graduate study, including 18 credit hours of core classes and 15 credit hours in an approved specialization.

#### Required Core (18 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3850:600</td>
<td>Basic Quantitative Research</td>
<td>3</td>
</tr>
<tr>
<td>3850:601</td>
<td>Advanced Research and Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>3980:615</td>
<td>Public Organization Theory</td>
<td>3</td>
</tr>
<tr>
<td>3980:643</td>
<td>Introduction to Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>3980:671</td>
<td>Program Evaluation in Urban Studies</td>
<td>3</td>
</tr>
<tr>
<td>3980:675</td>
<td>Advanced Techniques in Policy Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Specializations

Specializations represent career and/or academic fields of interest. Specializations for the MA are listed in the PAUS Master’s Handbook. Some specializations represent the inclusion of certificate programs on campus; some students may work with their advisors to craft a specialization that fits their needs and interests. Students should contact the department office to get a copy of the student handbook.

**Thesis:** Students are encouraged to consider the option of a thesis. A maximum of six credit hours of thesis course work can be applied to a specialization.

**Other:** Credit/Non-Credit courses do not count toward the minimum number of credit hours required for graduation.

### Master of Public Administration (MPA)

The Master of Public Administration (MPA) program has been accredited by the National Association of Schools of Public Affairs and Administration (NASPAA) through the 2009-2010 academic year. The MPA program is designed to prepare students for their public service careers in public management and administration, as well as the management of non-profit organizations.

#### Admission

Admission is open to students who have completed an undergraduate (bachelor’s) degree. No specific field or undergraduate major is required for admission. The GPA requirements for consideration for full admission is an overall bachelor GPA of 2.8 or greater or 3.05 for the last 60 credit hours. Provisional admission may be granted for those with an overall GPA between 2.5 and 2.79. Additionally, applicants must submit the following:

- For students who have an overall GPA below 3.0 a standardized test score from the GRE, GMAT, or LSAT, or MAT.
- A copy of their current resume (especially important for in-service students to ascertain their professional experience).
- A personal essay explaining why they study and completion of a MPA degree will help them with their personal or professional goals.

Admission decisions are made by the department committee as explained in the department handbook.

#### Degree Requirements

Satisfactory completion of a minimum 48 credit hours of graduate study, including 30 credit hours of core classes, 15 credit hours of specialization courses, and three credit hours of internship (3980:695). Students with sufficient professional work experience may petition for a waiver of the internship course, and those students that are granted an internship waiver have a minimum of 45 credit hours for the degree. Procedures for an internship waiver are included in the PAUS Master’s handbook.

**Core requirements (33 credit hours):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:600</td>
<td>Basic Quantitative Research</td>
<td>3</td>
</tr>
<tr>
<td>3980:610</td>
<td>Legal Foundations of Public Administration</td>
<td>3</td>
</tr>
<tr>
<td>3980:611</td>
<td>Introduction to the Profession of Public Administration</td>
<td>3</td>
</tr>
<tr>
<td>3980:614</td>
<td>Ethics and Public Service (capstone class)</td>
<td>3</td>
</tr>
<tr>
<td>3980:615</td>
<td>Public Organization Theory</td>
<td>3</td>
</tr>
<tr>
<td>3980:616</td>
<td>Personnel Management in the Public Sector</td>
<td>3</td>
</tr>
<tr>
<td>3980:640</td>
<td>Fiscal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3980:642</td>
<td>Public Budgeting</td>
<td>3</td>
</tr>
<tr>
<td>3980:643</td>
<td>Introduction to Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>3980:695</td>
<td>Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

Specializations: Specializations represent career and/or academic fields of interest. Specializations for the MPA are listed in the Master’s handbook. Some specializations represent the inclusion of certificate programs on campus; some students may work with their advisors to craft a specialization that fits their needs and interests. Students should contact the department office to get a copy of the handbook.

**Thesis:** Students are encouraged to consider the option of a thesis. A maximum of six credit hours of thesis course work can be applied to a specialization.

**Other:** Credit/Non-Credit courses do not count toward the minimum number of credit hours required for graduation.

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

The University offers a joint J.D. and Public Administration program. The title is J.D./MPA. To be accepted into the program, a student must meet the admission requirement of the School of Law, the Graduate School, and the Department of Public Administration and Urban Studies.

#### Degree Requirements

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

Under this program a student must take 43 credits of required law courses, 32 credits of elective law courses 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 credit hours (from 42 to 30).

### Sociology

#### Master of Arts

##### Thesis Option

Satisfactory completion of 31 semester credits of which at least 21 must be at the 600 level or higher in sociology (excluding 3850:697; 3850:698 and 3850:699).

In meeting these requirements the student must:

- Complete four required core courses with at least a 3.00 grade-point average:
  - 3850:601 Proseminar in Sociology
  - 3850:604 Research Design and Methods
  - 3850:706 Multivariate Techniques in Sociology
  - 3850:722 Early Sociological Thought

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

- Complete three required core courses with at least a 3.00 grade-point average:
  - 3850:601 Proseminar in Sociology
  - 3850:604 Research Design and Methods
  - 3850:722 Early Sociological Thought

- Completion of at least 15 credits in a contracted specialty area. This area must be defined in consultation with the student’s advisor 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.

##### Research Paper Option

Satisfactory completion of 31 semester credits of which at least 21 must be at the 600 level or higher in sociology (excluding 3850:697; 3850:697; 3850:698 and 3850:699). In meeting these requirements the student must:

- Complete four required core courses with at least a 3.00 grade-point average:
  - 3850:601 Proseminar in Sociology
  - 3850:604 Research Design and Methods
  - 3850:706 Multivariate Techniques in Sociology
  - 3850:722 Early Sociological Thought
• Complete at least six hours of Master’s Research Paper work (3850:699). No more than six credits will count toward the degree, but a student may register for more than six (6) hours.

• Completion of Master’s Research Paper and successful oral defense of paper.

Spanish

Master of Arts

• Thirty-two semester credits of graduate coursework in Spanish.
• Proficiency level in listening comprehension, speaking, reading, and writing Spanish, and cultural and literary proficiency.
• Final research paper: the candidate will be required to submit a long essay in Spanish reflecting the results of a research project, and to make an oral defense of the essay.

Statistics

Master of Science – Statistics

• Entrance into the program will require the initial completion of the following prerequisites:
  3450:223 Analytic Geometry-Calculus II, four credits; or equivalent.
  3450:312 Linear Algebra, three credits; or equivalent.
  3470:461,661 Applied Statistics I, four credits; or equivalent.

• Core curriculum:
  3470:651 Probability and Statistics 4
  3470:652 Advanced Mathematical Statistics 3
  3470:655 Linear Models 3
  3470:663 Experimental Design 3
  3470:665 Regression 3
  Total 16

Statistical Computer Science option (addition to existing master’s program)

• Other required courses:
  3460:501 Fundamentals of Data Structures 3
  3460:506 Introduction to C and UNIX 3
  3460:575 Database Management 3
  3470:580 Statistical Data Management 3
  Total 12

Thesis requirements (30 credits of graduate work)

In addition to the core curriculum, 2-4 credits in 3470:699 Master’s Thesis and 10-12 other approved elective graduate credit hours must be completed.

Successful completion of the comprehensive examinations in the core curriculum.

Nonthesis requirements (33 credits of graduate work)

In addition to the core curriculum, 2-4 credits in 3470:692 Statistics Masters Paper and 13-15 other approved elective graduate credit hours must be completed. The Statistical Computer Science option requirements may be applied toward the elective courses.

Successful completion of the comprehensive examinations in the core curriculum.

Theoretical and Applied Mathematics

Master of Science – Mathematics

Goals: This program is designed to train students in the formulation, analysis, and solution of mathematical models in a variety of application areas.

Administration: Upon admission to the program, each student will undergo a review process to determine competency in undergraduate core mathematical areas and background in at least one junior-level or higher course in engineering or physics. If necessary, the appropriate course(s) will be added to the required course list for the student.

• Core Requirements:
  3450:621 Real Analysis 3
  3450:627 Advanced Numerical Analysis I 3
  3450:633 Methods of Applied Mathematics I 3
  3450:692 Seminar in Mathematics 1-3

• Group 1 - At least one course from this list must be taken:
  3450:625 Analytic Function Theory 3
  3450:628 Advanced Numerical Analysis II 3
  3450:632 Advanced Partial Differential Equations 3

• Group 2 - At least two courses from this list must be taken:
  3450:634 Methods of Applied Mathematics II 3
  3450:635 Optimization 3
  3450:730 Advanced Numerical Solution of Partial Differential Equations 3

• Electives: 6 - 13 credits

Thesis Option (minimum of 30 credits)

In addition to the placement review and core requirements, at least six credits of electives approved by the graduate advisor and 2-4 credits in 3450:699 Master’s Thesis must be completed.

Nonthesis Option (minimum of 33 credits)

In addition to the placement review and core requirements, at least 13 credits of electives approved by the graduate advisor must be completed. Additionally, the student must successfully complete a Comprehensive Examination in the courses 3450:621, 627, 633, one course from Group 1 and one course from Group 2.

Coordinated Program

Coordinated Engineering Applied Mathematics program for the Doctor of Philosophy in Engineering degree between the College of Engineering and the Department of Theoretical and Applied Mathematics

The faculty in the College of Engineering and the Department of Theoretical and Applied Mathematics have agreed to provide a coordinated program for those graduate students who elect the interdisciplinary field of Engineering Applied Mathematics.

Admission and Degree Requirements

Applicants for the Engineering Applied Mathematics Program must have passed all required courses, met all degree requirements, and have a minimum of 30 graduate credits approved by the Department of Theoretical and Applied Mathematics.

BS/MS Program in Mathematics

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor’s degree in either mathematics or applied
mathematics as well as a master’s degree in mathematics. Under the supervision of a faculty advisor, a student in the program will finish the core course requirements and most of the electives for the bachelor’s degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor’s degree and 30 credits of graduate work for the master’s degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters. Students with honors scholarships are eligible for 12 graduate credits per semester, so during the fourth year they can be supported by the Honor's Program and receive a graduate assistantship during the fifth year. Graduate coursework will include the following courses:

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:510</td>
<td>Advanced Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3450:513</td>
<td>Theory of Numbers</td>
<td>3</td>
</tr>
<tr>
<td>3450:512</td>
<td>Abstract Algebra II</td>
<td>3</td>
</tr>
<tr>
<td>3450:522</td>
<td>Advanced Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>3450:621</td>
<td>Real Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3450:625</td>
<td>Analytic Function Theory</td>
<td>3</td>
</tr>
<tr>
<td>3450:636</td>
<td>Advanced Combinatorics and Graph Theory</td>
<td>3</td>
</tr>
<tr>
<td>3450:692</td>
<td>Seminar in Mathematics</td>
<td>2</td>
</tr>
<tr>
<td>3450:550</td>
<td>Probability</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3450:651</td>
<td>Theoretical Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3470:561</td>
<td>Applied Statistics I</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3470:651</td>
<td>Probability and Statistics</td>
<td>4</td>
</tr>
<tr>
<td>3450:699</td>
<td>Master’s Thesis (for thesis option)</td>
<td>2-4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A minimum of 30 graduate credits plus a project paper for non-thesis option</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Electives:  8-13 credits

A student must maintain a 3.0 or better grade point average to stay in the program. If a student is not able to do this, then he or she will have the option to complete the regular bachelor’s degree program instead of the five-year accelerated plan.

BS/MS Program in Applied Mathematics

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor’s degree in either mathematics or applied mathematics as well as a master’s degree in applied mathematics. Under the supervision of a faculty advisor, a student in the program will finish the core course requirements and most of the electives for the bachelor’s degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor’s degree and 30 credits of graduate work for the master’s degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters. Students with honors scholarships are eligible for 12 graduate credits per semester, so during the fourth year they can be supported by the Honors Program and receive a graduate assistantship during the fifth year. Graduate work will include the following courses:

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:621</td>
<td>Real Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3450:627</td>
<td>Advanced Numerical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>3450:633</td>
<td>Methods of Applied Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>3450:699</td>
<td>Master’s Thesis</td>
<td>4</td>
</tr>
<tr>
<td>(Non-thesis option is not available)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*At least one course from the following:

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:625</td>
<td>Analytic Function Theory</td>
<td>3</td>
</tr>
<tr>
<td>3450:629</td>
<td>Advanced Numerical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>3450:632</td>
<td>Advanced Partial Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

*At least one course from the following:

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:634</td>
<td>Methods of Applied Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>3450:635</td>
<td>Optimization</td>
<td>3</td>
</tr>
<tr>
<td>3450:730</td>
<td>Advanced Numerical Solution of Partial Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

*Graduate electives

A student must maintain a 3.0 or better grade point average to stay in the program. If a student is not able to do this, then he or she will have the option to complete the regular bachelor’s degree program instead of the five-year accelerated plan.

MISSION OF THE COLLEGE

The mission of the College of Engineering is to:

- Train engineers and scientists to solve state of the art technological issues.
- Train students to develop theory, methodology, and necessary experimental skills to investigate emerging issues in engineering and science that effect state and national interests.
- Provide excellence in presenting student findings via theses, doctoral dissertations, and research papers.
- Train students to be future educators where appropriate.
- Train students in industrial research where appropriate.
- Train students to work on interdisciplinary teams where appropriate.
- As the state positions itself in the forefront of the technology, appropriately trained scientists and engineers are needed in all fields. Our graduate programs provide training that equips students with the maturity and ability to assume leadership roles in technological fields related to the field of engineering. In addition, our programs attract a variety of students from several industries and NASA Glenn Research Center in Northeast Ohio. The College is a partner of the Ohio Aerospace Institute (OAI).

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 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.

The GRE requirements may be waived by the department for students holding degrees from ABET accredited programs. For those who took the exam under the old format, a minimum score of 1200 is expected on the combined analytical and quantitative portions of the GRE. Under the new format, a minimum score of 600 is expected on the quantitative portion of the GRE.

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 (paper-based) or 213 on the computer-based TOEFL, and also must submit their score on the Test of Written English. Applicants to the Department of Biomedical Engineering must have a TOEFL score of 590 (paper-based) or 243 (computer-based).
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 in a discipline other than engineering shall have completed undergraduate coursework in calculus, differential equations, and have one year of classical physics. These students may be required to take additional bridge-up courses depending on their background. Necessary bridge-up coursework will be determined by the admitting department/program graduate committee.

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:

- An entering doctoral student will have the chair of the Interdisciplinary Doctoral Committee (IDC) in his/her home department/program.
- Student's plan of study should include 96 credit hours and be in accordance with the guidelines established by the student's admitting department/program.
- A Plan of Study will be established by the IDC satisfying guidelines established by the home department/program.
- Identify an interdisciplinary field of study, a dissertation director, and an Interdisciplinary Doctoral Committee before completion of 18 credits of coursework.
- Pass a departmental Qualifying Examination. The purpose of the qualifying examination is to determine admissibility to the doctoral program and any technical deficiencies.
- 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.

Doctoral Student’s Responsibilities
Doctoral students are completely responsible for all aspects of their graduate education. Specifically, these responsibilities include:

- Understanding, adhering to, and implementing the procedures of the Graduate School, as described in The University of Akron Graduate Bulletin, and the Interdisciplinary Doctoral Procedures of the College of Engineering.
- Selecting an interdisciplinary program, Dissertation Director, and Interdisciplinary Doctoral Committee.
- Arranging, through the Dissertation Director, all Interdisciplinary Doctoral Committee meetings.
- Initiating, through the Dissertation Director, the forms that monitor their progress toward the doctoral degree.
- Proposing and executing an accepted Plan of Study.
- Proposing a Research Proposal and executing the proposed research.
- Preparing a scientifically acceptable and comprehensive dissertation whose format meets all the accepted standards of the Interdisciplinary Doctoral Committee, the College of Engineering, and the Graduate School.

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 (as of 1999, a Biomedical Engineering undergraduate program was approved by the Ohio Board of Regents), Chemical, Civil, Electrical, and Mechanical, as the basic disciplines for the interdisciplinary programs in Environmental Engineering, Materials Engineering, 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 and permit the interdisciplinary programs to adapt to the changing research and funding environment. Since the approval of the proposal, the interdisciplinary areas have expanded from the original five programs to ten interdisciplinary programs. These interdisciplinary programs are broadly defined as follows:

Environmental Engineering includes the study of water and air pollution, environmental health, chemical disposal, waste management, noise control, resource engineering, and appropriate 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, solid, 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 Engineering 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 technologically 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 Physical 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 Theoretical and Applied Mathematics

Admission Requirements
Applicants for the Engineering Applied Mathematics Program must have their graduate application and credentials evaluated by the College of Engineering Dean's Office and the applied mathematics division of the Department of Theoretical and Applied Mathematics. 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 (no “fail” votes) defending the dissertation before the Interdisciplinary Doctoral Committee.

Students in the Engineering Applied Mathematics Program must pass a departmental Qualifying Examination composed and administered by the participating faculty from the applied mathematics division of the Department of Theoretical and Applied Mathematics and the participating faculty from one of the five 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 applied mathematics division of the Department of Theoretical and Applied Mathematics. The participating faculty from the Department of Theoretical and Applied Mathematics must hold joint appointments in the College of Engineering.

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 at least 50 percent of minimum coursework from the College of Engineering and at least 50 percent of minimum coursework from the Department of Theoretical and Applied Mathematics.

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

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

Admission Requirements

When an engineering graduate student at Youngstown State University declares an interest in the joint doctoral program, the student shall prepare a letter of intent, with academic credentials, to the dean of engineering at Youngstown State University. 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 of the coursework and one-half of the research credits may be taken at Youngstown State University. The parity of courses is decided 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 Ph.D. 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 Ph.D. in Engineering degrees. This program integrates the knowledge and skills acquired by the student in each of the programs. Each individual coordinated degree program is tailored to suit the background and research interests of the student. Additional information may be obtained from The University of Akron Department of Biomedical Engineering 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
- Ph.D. Strength of Materials (or Material Science)
- Ph.D. Basic Electrical Engineering (or Circuits I & II)
- Ph.D. Calculus I, II, III, and Differential Equations

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 chair.

Applicants must submit an official undergraduate transcript, undergraduate grade point average, 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 2.75 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 (paper-based) or 213 on the computer-based TOEFL, and also must submit their score on the Test of Written English (TWE). Applicants to the Department of Biomedical Engineering must have a TOEFL score of 590 (paper-based) or 243 (computer-based).

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

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 degrees in the College of Engineering.

- Identify a three-member Advisory Committee including a major advisor before completion of 9 credit hours of coursework.
- Complete a formal Plan of Study that is acceptable to the Advisory Committee with a minimum of 24 credit hours of coursework of which no more than 6 credits are special topics courses. The formal Plan of Study may be revised upon approval of the Advisory Committee.
- Successfully (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 department’s nonthesis option requirements.

Master of Science in Chemical Engineering

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 complete:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:200</td>
<td>Material and Energy Balances</td>
<td>4</td>
</tr>
<tr>
<td>4200:225</td>
<td>Equilibrium Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>4200:321</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>4200:330</td>
<td>Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

An overall GPA of 3.0 must be maintained for these courses. 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.

Thesis Option

<table>
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<tr>
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<tbody>
<tr>
<td>4200:600</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4200:610</td>
<td>Classical Thermodynamics</td>
<td>3</td>
</tr>
</tbody>
</table>
**Students without BS in Chemical Engineering are required to take 4200:535, 4200:541.**

**Master of Science in Mechanical Engineering**

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 undergraduate coursework from one of four undergraduate disciplines. 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.

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**Nonthesis Option**

Electrical engineering students pursuing the nonthesis option must pass a graduate level oral comprehensive examination which may be taken after 24 credits have been completed.

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**Master of Science in Electrical Engineering**

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 undergraduate coursework from one of four undergraduate disciplines. 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.

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The specific courses for the Polymer Engineering Core Courses, Polymer Engineering electives, and advisor.  4 6200:601 is a prerequisite for 6400:602.

The Engineering Management Report must be approved by the advisor and Advisory Committee.

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

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

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

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

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.

Engineering Courses\(^1\) 21
Management Courses 15
Engineering Management Report 2
Total 38

Required Courses (3 credit hours each)
4100:697 Engineering Management Report\(^2\)
6200:601 Financial Accounting\(^3\)
6400:602 Managerial Finance\(^4\)
6500:600 Management and Organizational Behavior\(^5\)
6600:600 Marketing Concepts\(^6\)

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

\(^1\) Engineering courses can be taken from any engineering department with approval of engineering advisor.

\(^2\) The Engineering Management Report must be approved by the advisor and Advisory Committee. One member of the committee shall be from the College of Business Administration.

\(^3\) 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 Programs, College of Business Administration.

\(^4\) 6200:601 is a prerequisite for 6400:602.

\(^5\) Approved Electives
\(^6\) Biomedical Engineering Specialization

College of Education

Patricia A. Nelson, Ed.D., Dean
Sajit Zachariah, Ed.D., Assistant Dean for Administration and Strategic Initiatives

Mission Statement

The University of Akron’s College of Education is a community of professionals whose purpose is to provide leadership for community well-being through standard-setting programs that enhance teaching, learning, and human development; research and inquiry; and outreach. We develop ourselves and others through continuous improvement and through a commitment to these core components of professional practice and scholarship: knowledge, technology, diversity, and ethics.

The aim of the College of Education is to meet the comprehensive charge of our mission through initial and advanced teacher education programs as well as programs in administration, counseling, technical education, higher education, sport and exercise science, athletic training for sports medicine, and several teacher education programs housed outside the College. Programs include a balanced offering of a foundation in general education, intensive study in the content area, and those professional courses and other learning experiences which attempt to combine theory and practice.

The education program and courses presented in the bulletin reflect the most current courses and program offerings. For further information about specific programs and requirements, contact the College of Education Office of Student Affairs Admissions Officer. (330) 972-6970.

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 advisor, 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 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.

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 that the candidate is enrolled for a maximum of 10 consecutive weeks of full-time study and for a minimum of six semester hours per five-week session.

Selecting a Dissertation Chair

The candidate’s dissertation chair must be from the Department of Curricular and Instructional Studies and have Category II graduate faculty status. If the candidate desires a co-chair for the dissertation, the co-chair may be from a University of Akron department or college other than Curricular and Instructional Studies and must also have Category II graduate faculty status.
Continuous Doctoral Program Enrollment
All students admitted to the doctoral program must register for a minimum of one semester hour of graduate credit as approved by their advisors during each fall and spring semester. Individual departments may exceed this minimum requirement. doctoral students should consult their advisors about additional requirements.

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 and within the expertise and resources 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 (cognate)

Admission Requirements
Admission to the Curricular and Instructional Studies Ph.D. program is limited to a select number of students each 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 399 or higher, or a MAT score of 550 on the verbal portion of the GRE, and a prescribed and evaluated writing sample. Scores must not be more than five years old.
4. Controlled writing sample assignment. This requirement will be administered before the March 1 admissions deadline. Consult the Department of Curricular and Instructional Studies Office for specific test dates.
5. Submit a current vita, three letters of academic reference, and official transcripts.
6. Intended area of specialization is compatible with departmental resources and goals. Applicants must submit a letter of intent indicating their career goals and research interest.
7. 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 March 1 for fall 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 sample offered in March for fall admission.
4. “Agreement to Advise” form is to be completed after the MAT/GRE and the writing sample have been completed. This Agreement to Advise must be completed by April 15 in order to be considered for admission for summer coursework. 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 of departmental Graduate Faculty. Candidates may also be judged on depth and breadth of knowledge, poise, 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 does 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 additional 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 writing. 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.

Curricular and Instructional Studies Ph.D. Course Requirements

Social-Philosophical Foundations (15)
5100:600 Philosophies of Education (or 602 or 604) 3
5100:620 Psychology of Instruction for Teaching and Learning (or 624 or 5400:500) 3
5100:701 History of Education in American Society (or 703) 3
5100:705 Seminar in Social/Philosophical Foundations of Education 3
5100:723 Teaching Behavior and Instruction (or 721 or 710) 3

Research Foundations (18)
5100:640 Techniques of Research 3
5100:760 Research Design 3
5100:741 Data Collection Methods 3
5100:742 Statistics in Education 3
5100:744 Qualitative Methods I 3
5100:745 Qualitative Methods II 3
5100:801 Seminar I: Exploratory/Qualitative 3
5100:801 Seminar: Empirical or Seminar II: Ethnographic/Historical or Case Study Research or Legal Research and Writing or another advisor-approved course 3

Curricular and Instructional Studies Core (15)
5500:800 Professional Doctoral Seminar in Curricular and Instructional Studies 3
5500:880 Seminar in Curricular and Instructional Studies 3
5500:600 Concepts of Curriculum & Instruction (or 5400:xxx) 3
5500:605 Seminar in Trends and Issues in Curriculum & Instruction (or 5400:xxx) 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.

Doctoral Programs in Counseling

Collaborative Ph.D. Program in Counseling Psychology

The Collaborative Program in Counseling Psychology allows the student a choice of entry points. Students with a master's degree in counseling, guidance and counseling psychology, school psychology, or a related field may enter through the Counseling Department of the College of Education. Students with a baccalaureate degree may enter through the Psychology Department of the Buchtel College of Arts and Sciences. Students receive exposure to both colleges through shared coursework and faculty involvement with dissertations. Students of both departments are expected to attain a level of broad scientific competence in the core areas of psychology, the biological, social, cognitive-affective, and individual bases of human behavior. Practicum and internship experiences are required of all students and range from skill building in basic psychological assessment and counseling to a yearlong, full-time internship in an applied setting. The Collaborative Program in Counseling Psychology is accredited by the American Psychological Association.

The Department of Counseling offers a four-year, full-time Counseling Psychology program leading to a doctoral degree. Program emphasis is strongly placed on a scientist-practitioner model of training. Beyond the basic core areas of psychology students are expected to establish specific competencies in theory, research, and practice of Counseling Psychology. Academic preparation incorporates the study of theoretical approaches to counseling and psychotherapy, theory and practice of assessment, diversity issues in counseling psychology, supervision, vocational psychology, professional issues and ethics, statistics, and research design. Research and practicum experiences are strongly encouraged. Graduates typically seek teaching, research, and training positions in academia, as well as positions in counseling centers and other mental health agencies.

Admission to the Collaborative Program in Counseling Psychology is handled through the department associated with the student’s chosen entry point. Students must fulfill both departmental and Graduate School admission requirements.

Admission Requirements—College of Education Ph.D.

• A Graduate School application and an official transcript of all undergraduate and graduate coursework from each college or university attended must be completed and returned to the Graduate School.

• A minimum combined score on the Graduate Record Examination (GRE) General Test (verbal and quantitative sections) of 1100 is recommended. All students must also complete the GRE Psychology Subject Test and have these results reported to the Graduate School. Applicants are required to submit a declaration of intent outlining their occupational goals and their interest in and commitment to the counseling psychology program.

• A grade point average of 2.75 or above earned on all completed undergraduate work or a 3.0 or above on the most recent 64 semester hours of undergraduate work is required. A grade point average of 3.25 or above on all graduate work is required.

• Applicants are required to submit a vita outlining educational and professional experiences.

• Applicants must submit a minimum of three letters of reference attesting to success in the field and probable academic success at the doctoral level.

• Finalists are required to interview with program faculty, either in person or via telephone.

Departures from the program may be made only with the approval of the counseling psychology program faculty. Students may be considered for admission to counseling psychology only if they have earned a master’s degree in counseling, guidance and counseling psychology, school psychology, or a related field.

Required Courses

5100:648 Individual and Family Life-Span Development 3
5100:742 Advanced Educational Statistics 3
5600:651 Techniques of Counseling 3
5600:675/676 Practicum in Counseling (I) 8
3750:619 Core I: Social Psychology 2
3750:620 Core II: Cognitive Psychology 2
3750:630 Core III: Individual Differences 2
3750:640 Core IV: Biopsychology 2
3750:650 Core V: Social-Cognitive Psychology 2
3750:750 Advanced Psychological Test and Measures 2
5600:702 Advanced Counseling Practicum I 4
5600:703 Advanced Counseling Practicum II 4
5600:707 Supervision in Counseling Psychology 4
5600:709 Introduction to Counseling Psychology 2

5600:710 Theories of Counseling and Psychotherapy 4
5600:711 Vocational Behavior 4
5600:712 Principles and Practice of Intelligence Testing 4
5600:713 Professional, Ethical and Legal Issues in Counseling Psychology 4
5600:714 Objective Personality Evaluation 4
5600:715 Research Design in Counseling I 3
5600:717 Issues of Diversity in Counseling Psychology 4
5600:718 History and Systems in Psychology 2
5600:796 Counseling Psychology Practicum I 4
5600:798 Counseling Psychology Practicum II 4
3750/650- Required Electives 8
5600:899 Doctoral Dissertation (minimum) 15
Language Requirement 8
Minimum Total Credit Hours Required 114

Students register for dual listed courses (3750/6500) under their home department code.

The comprehensive written examination is prepared, administered, and graded by program faculty. At least one core Counseling Psychology faculty member from each department is required to participate in the oral portion of the comprehensive examination.

At least one core Counseling Psychology faculty member from each department is required to participate on the student’s dissertation committee.

Internship sites must be approved by the Collaborative Program Internship Committee. Internships must include 2,000 post-master’s hours and be completed in less two years.

Ph.D. in Counselor Education and Supervision

The doctoral program in Counselor Education and Supervision is designed for students who hold a master’s degree in counseling or a related field. The program has tracks: (a) Counselor Education and Supervision, and (b) Marriage and Family Therapy. Students in each track are expected to attain advanced level competencies in the core areas of their track, research, and supervision. Practicum and internship experiences are required. In addition, the cognate/elective option allows students some flexibility in designing a program that is consistent with career goals.

Each track requires completion of a residency year (the last year of course work); passing of the doctoral written and oral comprehensive examinations; and completion of a dissertation. With the proper selection of courses, graduates of the CES track can meet the requirements for licensure in Ohio as a Professional Clinical Counselor. With the proper selection of courses, graduates of the MFT track can meet the requirements for licensure in Ohio as a Professional Clinical Counselor, Marriage and Family Therapist, Clinical member of AAMFT, and AAMFT Approved Supervisor in Training.

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

The Ph.D. Program in Counselor Education and Supervision is accredited by the Council for Accreditation of Counseling and Related Education Programs (CACREP), a specialized accrediting body recognized by the Council on Postsecondary Education (COAEP). In addition, the Marriage and Family Counseling Therapy program is accredited by the Commission on Accreditation of Marriage and Family Therapy Education (COAMFTE).

Ph.D. in Counselor Education and Supervision Requirements:

Course Requirements:

5100:705 Social-Philosophical Foundations 3
5100:635 Emerging Technologies for Instruction 3
5100:742 Statistics in Education 3
5100:743 Advanced Educational Statistics 3
5600:715 Research Design in Counseling I 3
5600:716 Research Design in Counseling II 3

(The following may be taken but will not apply to all entry-level requirements are completed)

5600:702 Advanced Counseling Practicum 12
5600:703 Advanced Counseling Practicum 3 (semester; 4 credits each semester)
5600:710 Theories of Counseling and Psychotherapy or
5600:669 System Theory in Family Therapy 3
5600:725 Professional and Legal Issues in Counselor Education 3
5600:730 Topical Seminar: Use of Assessment Data 4
5600:737 Clinical Supervision I 4
5600:738 Clinical Supervision II 4
XXX Cognates 6-10

(minimum of 3 credits taken outside of the College and dependent upon specific track)

5600:785 Doctoral Internship 6
5600:785 Internship Marriage and Family 6

(1 must graduate with 1000 program clinical hours, see program guidelines for details)

5600:899 Doctoral Dissertation (minimum) 15

In addition students enrolled in the Marriage and Family Doctoral Track must complete the following requirements:

5600:720 Topical Seminar: Issues in Marriage and Family Therapy 3
5600:667 Mental Therapy 3
Minimum Total Credit Hours Required 120
DOCTORATE IN EDUCATIONAL ADMINISTRATION

The Department of Educational Foundations and Leadership bears a special responsibility for preparing school leaders to the degree that its graduates have unique opportunities to shape organizational goals, to influence the character of educational programs, and to affect institutional performance. The department’s programs are based on the strengths of the total College and University. The professional skills of administration are developed as they relate to larger issues of educational policy and educational purpose. At all degree levels there is emphasis upon research and clinical inquiry as a means of enhancing administrative performance.

The curriculum in this Doctor of Education program is delivered in a sequenced, cohort model. The program is designed around four categories of standards found in the National Council for the Accreditation of Teacher Education (NCATE) Curriculum Guidelines for Advanced Programs in Educational Leadership approved by NCATE in October 1995, namely, (1) strategic leadership, (2) instructional leadership, (3) organizational leadership, and (4) political and community leadership. The courses are built upon the 21 domains outlined by the National Policy Board for Educational Administration (NPBEA).

Admission Requirements

- Letter of application to include the nature of the applicant’s interest in the program and future career goals
- GRE: Total preferred score over 1000 (must have been taken within the past five years)
- Official transcripts: undergraduate, masters, certificate/licensure programs, and any previous doctoral study
- 3.25 GPA - masters
- Current curriculum vitae/resume
- Three letters of reference addressing the applicant’s organizational, research, and communication skills

Applicants who make the first cut, based on review of the application package above, will be invited to campus to provide the following:

- Structured interview
- Proctored writing sample

Program Requirements

Behavioral, Historical, and Social-Philosophical Studies (12)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>5100:701</td>
<td>History of Education in American Society</td>
<td>3</td>
</tr>
<tr>
<td>5100:705</td>
<td>Seminar: Social-Philosophical Foundations</td>
<td>3</td>
</tr>
<tr>
<td>5100:710</td>
<td>Adult Learning, Development and Motivation</td>
<td>3</td>
</tr>
<tr>
<td>5100:721</td>
<td>Learning Processes</td>
<td>3</td>
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Research (22)

<table>
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<tr>
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<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5170:899</td>
<td>Doctoral Dissertation (student must take at least 10 semester dissertation hours but may count up to 20 toward the degree)</td>
<td>10</td>
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</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>5100:740</td>
<td>Research Design</td>
<td>3</td>
</tr>
<tr>
<td>5100:741</td>
<td>Data Collection Methods</td>
<td>3</td>
</tr>
<tr>
<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:743</td>
<td>Advanced Educational Statistics</td>
<td>3</td>
</tr>
<tr>
<td>5100:801</td>
<td>Research Seminar: Exploratory/Qualitative</td>
<td>3</td>
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</table>

Outreach Master’s in Education Programs

The University of Akron’s College of Education believes that improvement in teacher education and continuing professional development is the direct result of collaboration at many different levels and sites with local school personnel. This collaboration evolves through a wide variety of cooperative activities, including master’s in education cohort programs currently offered at Akron Public Schools, Medina County Schools, Summit County Educational Service Center, and other district locations.

The goal of the outreach master’s program is to offer graduate-level courses leading to a master’s degree for teachers on-site or via distance learning, specifically in the areas of elementary education, literacy, secondary education, educational administration, and instructional technology. For more information, please send email to <outreach@uakron.edu>.

Programs

Counseling

The Graduate Record Examination (General Test) will be used as the qualifying examination in all Counseling master’s programs. Admissions to the master’s programs will be twice a year (application deadline of March 15 for summer and fall semesters and October 1 for spring semester).
The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation (CORPA), has conferred accreditation on the Community, Marriage and Family, and School Counseling programs. In addition, the Marriage and Family Counseling/Therapy program is accredited by the Commission on Accreditation for Marriage and Family Therapy Education of the American Associate of Marriage and Family Therapy.

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 licensure 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
    5100:620 Psychology of Instruction for Teaching and Learning 3
  
  - Humaneanistic Foundations
    5100:600 Philosophies of Education 3
  
- Required Departmental Courses
  5610:501 Foundations of Education 3
  5610:680 Seminar in the Cultural Foundations of Education 3
  5600:646 Multicultural Counseling 3

- Area of concentration

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

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

Minimum Department Hours Required 20

Community Counseling

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

- Foundations Courses
  5600:648 Individual and Family Development 3
  5600:646 Multicultural Counseling 3
  5100:640 Techniques of Research 3

- Required Counseling Department Courses
  5600:600 Seminar in Counseling 1
  5600:635 Community Counseling 3
  5600:643 Counseling Theory & Philosophy 3
  5600:647 Career Development and Counseling Across the Lifespan 3
  5600:645 Tests and Appraisal in Counseling (prerequisite: 5100:640) 4
  5600:651 Techniques of Counseling 3
  5600:653 Group Counseling (prerequisites 5600:651 and 5600:643) 4
  5600:675 Practicum in Counseling**‡ (prerequisite: 5600:641) 5
  5600:685 Internship in Counseling‡ (prerequisite: 5600:675) 6

- Specialized Studies
  5600:620 Issues in Sexuality for Counselors 3

Clinical Counseling Component

- Counseling Process (all required)
  5600:651 Techniques of Counseling* 3
  5600:653 Group Counseling (prerequisites 5600:651 and 5600:643) 4
  5600:675 Practicum in Counseling**‡ (prerequisites 5600:631, 645, 646, 647, 653, 659) 5

- Internship
  5600:685 Internship in Counseling‡ (prerequisite: 5600:675) 6

Minimum Department Hours Required 35

School Counseling

This course of study leads to eventual licensure as a school counselor in the State of Ohio. Any changes in the agreed upon program must be approved by the student’s advisor.

Admission Requirements:

For those with a teaching license and two years teaching experience:

- GRE
- 2.75 undergraduate grade point average
- Statement of good moral character
- Three letters of reference
- Departmental supplemental application

For those without a teaching license:

- GRE
- 2.75 undergraduate grade point average
- BCI check
- Three letters of reference
- Departmental supplemental application

There are ten credit hours of co-requisite coursework for students without a teaching license and two years teaching experience:

- 5600:663 Seminar in School Counseling 3
- 5600:695 Field Experience: Master’s 1
- One of the following: 5600:660; 5600:640; or 5600:622  (3 credit hours)
- One of the following: 5610:567 or 5610:559  (3 credit hours)

- Foundations (select one course from each area)
  - Behavioral Foundations
    5600:648 Individual and Family Development Across the Lifespan 3
  - Humanistic Foundations
    5600:646 Multicultural Counseling 3
  - Research
    5100:640 Techniques of Research 3

Minimum Foundation Hours Required 9

- Professional Orientation (select one course from each area)
  - Counseling Theory
    5600:643 Counseling Theory & Philosophy 3
  - Counseling Process (all required)
    5600:651 Techniques of Counseling* 3
  - Internship
    5600:685 Internship in Counseling‡ (prerequisite: 5600:675) 6

Minimum Department Hours Required 35

- Specialized Studies (both required)
  5610:540 Developmental Characteristics of Exceptional Individuals 3

*Must sign up with secretory one year in advance.
‡Must sign up with Internship Coordinator no later than second week of term preceding internship.
**Practicum and Internship require closed class permission. You must request one from the Department prior to registering.
Marriage and Family Counseling/Therapy

This course of study leads to licensure as a marriage and family counselor/therapist and to employment in family-based mental health settings. Any changes in the agreed upon program must be approved by the student’s advisor.

- **Area I:** Theoretical Foundations
  - 5600:655 Marriage and Family Therapy: Theories and Techniques 3
  - 5620:699 Systems Theory in Family Therapy 3

- **Area II:** Clinical Practice
  - 5600:667 Mental Therapy (prerequisites: 5600:655 and 5600:669) 3
  - 5600:646 Multicultural Counseling (Educ Foundations) 3
  - 5600:653 Group Counseling (prerequisite: 5600:661) 4
  - 5600:664 DSM 3

- **Area III:** Individual Development and Family Relations
  - 5600:649 Individual and Family Development Across the Lifespan (Ed Found) 3
  - 5600:620 Issues in Sexuality for Counselors 3
  - 5600:662 Personality and Abnormal Behavior 3

- **Area IV:** Professional Identity and Ethics
  - 5600:623 MFCJT Ethics and Professional Identity (take first semester) 3

- **Area V:** Research
  - 5100:640 Techniques of Research (Educ Foundations) 3
  - 5600:656 Assessment Methods and Treatment Issues in MFT (prereq: 5600:645) 3

- **Area VI:** Additional CACREP Core Counseling Courses
  - 5600:643 Counseling Theory and Philosophy 3
  - 5600:645 Tests and Appraisals in Counseling 4
  - 5600:647 Career Development and Counseling Across the Lifespan 3

- **Clinical Experience Requirements**
  - 5600:695 Field Experience (Pre-practicum one hour taken each semester, the two semesters immediately before Practicum 5600:675) 2
  - 5600:675 Practicum in Counseling* (register for MFCJT section) 5
  - 5600:685 Internship 6 (Minimum of two semesters immediately following 5600:675, register for MFCJT section) 6

Minimum Hours for Marriage and Family Therapy Degree Completion 63**

*Sign up for Practicum at least one year in advance - space is limited. Sign up with Secretary.
**A minimum of 500 client contact hours must be completed to graduate from the program.

A maximum of six credits of workshops can be used to satisfy degree requirements.

School Psychologist*
(admissions temporarily suspended)

- **College requirements:**
  - 5100:640 Techniques of Research 3
  - 5620:694 Research Project 2
  - 5620:698 Master’s Problem 2-4
  - 5620:699 Master’s Thesis 4-6

- **Departmental requirements:**
  - 5600:643 Counseling: Theory and Philosophy 3

- **Program requirements:**
  - 3750:530 Psychological Disorders of Childhood 4
  - 3750:700 Survey of Projective Techniques 4
  - 3750:712 Principles and Practice of Individual Intelligence Testing 4
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:624 Seminar in Human Learning 3
  - 5100:741 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

**Sixth-Year School Psychology Master’s Degree and Certification Program**

- **Foundations requirements:**
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:624 Seminar: Educational Psychology 3

  - 5100:640 Techniques of Research 3
  - 5100:741 Statistics in Education 3

- **Professional requirements:**
  - 3750:700 Survey of Projective Techniques 4
  - 3750:530 Psychological Disorders of Childhood 4
  - 3750:712 Principles and Practice of Individual Intelligence Testing 4
  - 5600:643 Counseling: Theory and Philosophy 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
  - 5620:694 Research Project in Special Area 2-3
  - 5620:698 Master’s Problem 2-4
  - 5620:699 Master’s Thesis 4-6

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

- 3750:500 Personality 4**
- 5610:543 Developmental Characteristics of Learning Disabled Individuals 3
- 5500:626 Reading Diagnosis for School Psychologists and Support Personnel 3
- 5610:540 Developmental Characteristics of Exceptional Individuals 3**
- 3750:520 Abnormal Psychology 3**
- 5620:603 Consultation Strategies for School Psychology 3
- 5620:611 Practicum in School Psychology 3 (this course is repeated once for a total of eight credits)

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

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

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

- 5200:630 Elementary School Curriculum and Instruction 2
- 5620:698 Field Experience: Theory and Practice 3
- 5700:631 Elementary School Administration 3
- 5170:601 Principles of Educational Administration 3

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

*Program admission is competitive, based upon state internship allocations. Selection procedures and criteria are available upon request by calling the school psychology program director in the Department of Counseling and Special Education. For recommendation for certification as a school psychologist in Ohio, the master’s student must additionally complete the program prescribed under “Certification.”

**Required as part of Special Education master’s.

Curricular and Instructional Studies

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, multi-cultural, middle, or elementary education.

- **Foundation studies – 9 credits**
  - 5100:600 Philosophies of Education 3
  - 5100:602 Comparative and International Education 3
  - 5100:604 Seminar in Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:624 Seminar in Educational Psychology 3
  - 5100:640 Techniques of Research 3

- **Curricular and Instructional – 6 credits**
  - 5500:600 Concepts of Curriculum and Instruction or basic curriculum and instruction course in one’s concentration area in curriculum and instruction 3
  - 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 (e.g., 5500:575 Instructional Technology Applications, 5500:570 Multicultural Education in The United States, or 5100:614 Planning for Technology) 3
A minimum of 29 additional undergraduate credits will be required for licensure. A comprehensive exam is required. See Department of Curricular and Instructional Studies for complete list of requirements.

Elementary Education with Literacy Option (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 – 9 credits:**
  - 5100:600 Philosophies of Education 3
  - 5100:602 Comparative and International 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
  - 5100:640 Techniques of Research 3

- **Curricular and Instructional Studies – 6 credits:**
  - 5500:600 Concepts of Curriculum and Instruction 3
  - 5500:627 Special Topics in Literacy Education: Teaching Young Adult Literature 3
  - 5500:630 Assessment of Reading Difficulties 3
  - 5500:624 Teaching Reading to Culturally Diverse Learners 3
  - 5500:627 Special Topics in Literacy Education 3

- **Final Research Requirement:**
  - 5500:696 Master’s Project 6
  - 5500:699 Master’s Thesis 6
  - Minimum credit hours required: 36-42

- **Area of Concentration/Reading – 15 credits:**
  - 5500:600 Children’s Literature in the Curriculum 3
  - 5500:627 Special Topics in Literacy Education; Teaching Young Adult Literature 3
  - 5500:522 Content Area Literacy 3
  - 5500:624 Teaching Reading to Culturally Diverse Learners 3
  - 5500:627 Special Topics in Literacy Education 3

- **Minimum credit hours required: 36**

*Reading Endorsement requires 18 credit hours in reading and passage of Praxis II: Introduction to the Teaching of Reading (10200).*

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.

- **Foundation Studies – 9 credits:**
  - 5100:600 Philosophies of Education 3
  - 5100:602 Comparative and International 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
  - 5100:640 Techniques of Research 3

- **Curricular and Instructional – 6 credits:**
  - 5500:600 Concepts of Curriculum and Instruction 3
  - 5500:627 Special Topics in Literacy Education 3
  - 5500:629 Reading Programs in Secondary Schools 3
  - 5500:627 Special Topics in Literacy Education: Teaching Young Adult Literature 3
  - 5500:625 Contemporary Issues in Literacy Instruction and Phonics 3
  - 5500:627 Special Topics in Literacy Education 3

- **Final Research Requirement:**
  - 5500:696 Master’s Project 6
  - 5500:699 Master’s Thesis 6
  - Minimum credit hours required: 36

*Reading Endorsement requires 18 credit hours in reading and passage of Praxis II: Introduction to the Teaching of Reading (10200).*

Secondary Education with Literacy Option (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 literacy education.

- **Foundation Studies – 9 credits:**
  - 5100:600 Philosophies of Education 3
  - 5100:602 Comparative and International 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
  - 5100:640 Techniques of Research 3

- **Curricular and Instructional Studies – 6 credits:**
  - 5500:600 Concepts of Curriculum and Instruction 3
  - 5500:627 Contemporary Issues in Literacy Instruction and Phonics 3

- **Area of Concentration/Reading – 15 credits:**
  - 5500:600 Children’s Literature in the Curriculum 3
  - 5500:627 Special Topics in Literacy Education; Teaching Young Adult Literature 3
  - 5500:522 Content Area Literacy 3
  - 5500:624 Teaching Reading to Culturally Diverse Learners 3
  - 5500:627 Special Topics in Literacy Education 3
  - 5500:629 Reading Programs in Secondary Schools 3

- **Final Research Requirement:**
  - 5500:696 Master’s Project 6
  - 5500:699 Master’s Thesis 6
  - Minimum credit hours required: 36

*Reading Endorsement requires 18 credit hours in reading and passage of Praxis II: Introduction to the Teaching of Reading (10200).*

Elementary Education with Licensure (M.S.)

(admissions temporarily suspended)

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
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:642 Topical Seminar in Measurement and Evaluation 3
  - 5100:696 Field Experience: Master’s (Section 001) 1

- **Curricular and Instructional Studies – 11 credits:**
  - 5500:617 Elementary and Secondary Licensure Seminar 3
  - 5500:630 Field Experience (Section 011) 1
  - 5500:575 Instructional Technology Applications 3
  - 5500:618 Advanced Instructional Techniques 3
  - 5500:696 Field Experience (Section 021) 1

- **Field Experience (Student Teaching) – 11 credits:**
  - 5500:696 Field Experience: Master’s (Section 005) 5
  - 5500:696 Field Experience: Master’s (Section 006) 5
  - 5500:696 Field Experience: Master’s (Section 031) 1

- **Total Program:** 32 credits

- **A minimum of 29 additional undergraduate credits will be required for licensure.**

- **Minimum credit hours required: 36**

*Reading Endorsement requires 18 credit hours in reading and passage of Praxis II: Introduction to the Teaching of Reading (10200).*
Special Education (M.A.)

The 30-33 hour graduate program in special education is designed for those individuals who currently hold an undergraduate degree and Intervention Specialist licensure. The program is divided into three options. The first option (Option I) is for individuals seeking only a Masters in Special Education. The second option (Option II) contains coursework providing focus on Pervasive Developmental Disabilities/Autism. The third option (Option III) provides specific coursework designed to focus on providing behavioral support in the school setting. Completion of the master's program does not lead to licensure in special education.

- Foundations core (9 credits):
  - 5100:600 Philosophies of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:640 Techniques of Research 3
- Special Education core (15 credits):
  - 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: Social/Ethical Issues in Special Education 3
  - 5610:698 Master’s Problem 3

A comprehensive examination is required.

- Option I: Master’s in Special Education (6 credits)
  - 5610:601 Seminar in Curriculum Planning 3
  - 5610:602 Supervision in Special Education 3
  - Minimum Credit Hours Required 30

- Option II: Master’s with focus on Pervasive Developmental Disabilities/Autism (9 credits):
  - 5610:607 Characteristics and Needs of Individuals Demonstrating PDD 3
  - 5610:609 Programming Issue for Individuals with PDD 3
  - 7700:540 Augmentative Communication 3
  - Minimum Credit Hours Required 33

- Option III: Master’s with focus on Behavior Support (6 credits):
  - 5610:610 Characteristics and Needs of Individuals with Behavioral and Emotional Disorders 3
  - 5500:631 Advanced Behavioral Strategies for the Educator 3
  - Minimum Credit Hours Required 30

Master of Science in Curriculum and Instruction (M.S.) with Licensure Options

(For those without a teaching credential or those who seek to add Intervention Specialist)

This program is a Master of Science degree, which leads to licensure in a chosen teaching field and is open to highly qualified students who hold a B.A., B.F.A., or B.S. degree. It is designed to give the student concentrated study in one of the licensure areas listed for high school (grades 7-12), multi-age (grades P-12), vocational family and consumer science (grades 4-12), or intervention specialist (grades P-3 or K-12).

The University of Akron offers adolescent/young adult licensure (grades 7-12) in the following fields:

- Integrated Social Studies
- Integrated Language Arts
- Life and Earth Science
- Life Science and Chemistry
- Life Science and Physics
- Chemistry and Physics
- Earth Science and Chemistry
- Earth Science and Physics
- Integrated Mathematics

Specializations for Multi-Age (P-12) licensure include:

- Foreign Languages (French or Spanish)
- Visual Arts
- Drama/Theatre
- Music

Specializations for Vocational (grades 4-12) licensure include:

- Family and Consumer Science/Home Economics
- Intervention Specialist (Mild/Moderate and Moderate/Intensive) licensure is K-12.

The Early Childhood Intervention Specialist provides licensure for children with disabilities in preschool through grade three.

All requirements for licensure must be met. Candidates may need additional subject area coursework to meet ODE licensure requirements, including mandated coursework in reading.

Admission Requirements

Graduate School:

- Completed application for Graduate School
- Students must have an overall 2.75 grade point average to be fully admitted
- Provisional admission may be granted to those students who have a 2.5 to 2.74 grade point average

College of Education (which must be met by all students):

- Completed teacher education program application
- Evidence of competency in reading, comprehension, writing, and mathematics
- Speech and hearing test
- Evidence of basic computer literacy
- Two letters of recommendation
- BCI (Bureau of Criminal Investigation clearance)

Applications should be made simultaneously. See the Office of Student Affairs, Zook Hall 228, call (330) 972-6970 or visit the following for more information:

http://www.uakron.edu/colleges/coe/COE/admission.php

Teacher Education Program

The central theme of The University of Akron's Teacher Education Program is “Educator as Decision Maker.” This was chosen because the complexity of teaching is increasing and the professional knowledge base is growing. Consequently, the most important skill a future teacher can have is good decision making; knowing “when to do what.” Decision-making is stressed in the standards-based programs that prepare teachers and other school personnel for professional practice. At the initial preparation level, programs are aligned with the Praxis Pathwise domains, Specialized Program Associations (SPA Standards), and principles developed by the Interstate New Teacher Assessment and Support Consortium (INTASC). For more complete information about the teacher education program, please consult the College of Education Office of Student Affairs at (330) 972-6970.

Program

- Foundation Courses (10 credits):
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:642 Topical Seminar in Measurement and Evaluation 3
  - 5100:695 Field Experience: Master’s in conjunction with 5100:620 1
- Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Social Studies Licensure
  - Foundation Courses (10 credits):  
    - 5500:575 Instructional Technology Applications 3
    - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
    - 5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-021) 3
    - 5500:693 Field Experience: Master’s with Licensure (section 021) 1
    - 5500:691 Instructional and Management Practices (taken in conjunction with 5500:690-011) 3
    - 5500:690 Field Experience: Master’s with Licensure (section 011) 1
    - 5500:629 Reading Programs in Secondary Schools 3
    - 5500:xxx Elective in curriculum or teaching practices approved by advisor 2
  - Area of Concentration (9):
    - Select 9 credits at 500-level or above.
    - Field Experience (Student Teaching) (7 credits):
      - 5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
      - 5500:692 Field Experience: Colloquium 1
  - A comprehensive examination is required.
    - Minimum credits required for degree: 45

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Language Arts Licensure

- Foundation Courses (10 credits):
  - 5500:575 Instructional Technology Applications 3
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  - 5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-021) 3
  - 5500:693 Field Experience: Master’s with Licensure (section 021) 1

- Curricular and Instructional Studies (19 credits):
  - 5500:575 Instructional Technology Applications 3
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  - 5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-021) 3
  - 5500:693 Field Experience: Master’s with Licensure (section 021) 1

- Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Social Studies Licensure
  - Foundation Courses (10 credits):
    - 5500:575 Instructional Technology Applications 3
    - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
    - 5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-021) 3
    - 5500:693 Field Experience: Master’s with Licensure (section 021) 1

- Curricular and Instructional Studies (19 credits):
  - 5500:575 Instructional Technology Applications 3
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  - 5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-021) 3
  - 5500:693 Field Experience: Master’s with Licensure (section 021) 1

- Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Language Arts Licensure
5500:619 Instructional and Management Practices (taken in conjunction with
5500:693-011) 3
5500:693 Field Experience: Master’s with Licensure (section 011) 1
5500:629 Reading Programs in Secondary Schools 3
5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits at 500-level or above.
• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
Minimum credits required for degree: 45

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life
(Biology) and Earth Science Licensure
• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-
  021) (b) 3
  5500:693 Field Experience: Master’s with Licensure (section 021) 1
  5500:619 Instructional and Management Practices (taken in conjunction with
  5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits at 500-level or above.
• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
Minimum credits required for degree: 45

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life
Science Licensure and Physics Endorsement
• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-
  021) (b) 3
  5500:693 Field Experience: Master’s with Licensure (section 021) 1
  5500:619 Instructional and Management Practices (taken in conjunction with
  5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits at 500-level or above.
• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
Minimum credits required for degree: 45

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Physical
Science (Chemistry and Physics) Licensure
• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-
  021) (b) 3
  5500:693 Field Experience: Master’s with Licensure (section 021) 1
  5500:619 Instructional and Management Practices (taken in conjunction with
  5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits at 500-level or above.
• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
Minimum credits required for degree: 45

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Earth
Science Licensure and Chemistry Endorsement
• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-
  021) (b) 3
  5500:693 Field Experience: Master’s with Licensure (section 021) 1
  5500:619 Instructional and Management Practices (taken in conjunction with
  5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits at 500-level or above.
• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
Minimum credits required for degree: 45

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Earth
Science Licensure and Physics Endorsement
• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques (taken in conjunction with 5500:693-
  021) (b) 3
  5500:693 Field Experience: Master’s with Licensure (section 021) 1
  5500:619 Instructional and Management Practices (taken in conjunction with
  5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits at 500-level or above.
• Area of Concentration (9):
  Select 9 credits at 500-level or above.

• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
  Minimum credits required for degree: 45

Option in Multi-Age (grades P-12) Education: Foreign Language French Licensure

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques - Modern Language (b) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master's with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500:780 ST. Reading for K-12 (multi-age licensure) 3
  5500:621 Instructional Techniques: Modern Languages K-8 3

• Area of Concentration (9):
  Select 9 credits at 500-level or above.

• Field Experience (Student Teaching) (9 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
  Minimum credits required for degree: 47

Option in Multi-Age (grades P-12) Education: Foreign Language Spanish Licensure

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques - Modern Language (b) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master's with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  or  
  5500:780 ST. Reading for K-12 (multi-age licensure) 3
  5500:621 Instructional Techniques: Modern Languages K-8 3

• Area of Concentration (9):
  Select 9 credits at 500-level or above.

• Field Experience (Student Teaching) (9 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Colloquium (section 031) 1

• A comprehensive examination is required.
  Minimum credits required for degree: 47

Option in Multi-Age (grades P-12) Education: Visual Arts Licensure

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3

•Curricular and Instructional Studies (19 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master's with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  or  
  5500:780 ST. Reading for K-12 (multi-age licensure) 3
  7100:510 Methods of Teaching Elementary Art (Fall Only) 3
  7100:511 Methods of Teaching Secondary Art (Spring Only) 3

• Area of Concentration (9):
  Select 9 credits at 500-level or above.

• Field Experience (Student Teaching) (10 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Field Experience: Classroom Instruction (section 003) 3
  7100:512 Student Teaching Colloquium 1

• A comprehensive examination is required.
  Minimum credits required for degree: 45

Option in Grades 4-12 Education: Family and Consumer Sciences/Home Economics Licensure

Contact Program Coordinator in Family and Consumer Sciences, Shrank Hall South 215

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master's with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  or  
  5500:780 ST. Reading for K-12 (multi-age licensure) 3
  7400:591 Career-Technical FCS Instructional Strategies (taken in conjunction with 5500:693-021) 3
  5500:693 Field Experience: Master's with Licensure (section 021) 1
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits with advisor approval

• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  7400:591 Student Teaching Seminar 1

• A comprehensive examination is required.
  Minimum credits required for degree: 45

Option in Multi-Age (P-12) Education: Drama Licensure

Contact Program Coordinator in Theatre Arts, Guzzetta South 247

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:618 Advanced Instructional Techniques (b) 3
  5500:693 Field Experience: Master's with Licensure (section 011) 1
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master's with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  or  
  5500:780 ST. Reading for K-12 (multi-age licensure) 3
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2

• Area of Concentration (9):
  Select 9 credits with advisor approval

• Field Experience (Student Teaching) (7 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  5500:692 Student Teaching Colloquium 1

• A comprehensive examination is required.
  Minimum credits required for degree: 45

Option in Special Education: Mild/Moderate Intervention Specialist Licensure

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3

• Area of Concentration (26 credits):
  5610:540 Developmental Characteristics of Exceptional Individuals 3
  5610:547 Developmental Characteristics of Mild/Moderate Educational Needs 4
  5610:567 Management Strategies 3
  5610:604 Collaboration and Consultation 3
  5610:563 Assessment in Special Education 3
  5610:552 Special Education Programming: Secondary/Transition 3
  5610:551 Special Education Programming: Mild/Moderate I 3
  5610:557 Special Education Programming: Mild/Moderate II 4

• Field Experience: Student Teaching and Practicum (11 credits) or Master’s Project and Practicum (6 credits):
  5610:696 Field Experience: Student Teaching 8
  5610:570 Practicum 3
  or  
  5610:694 Master’s Project 3
  5610:570 Practicum 3

• A comprehensive examination is required.
  Minimum credits required for degree (d): 42-45

Option in Special Education: Moderate/Intensive Intervention Specialist Licensure

• Foundation Courses (10 credits):
  5500:575 Instructional Technology Applications 3

• Curricular and Instructional Studies (3 credits):
  5500:575 Instructional Technology Applications 3

• Area of Concentration (26 credits):
  5610:540 Developmental Characteristics of Exceptional Individuals 3
  5610:547 Developmental Characteristics of Mild/Moderate Educational Needs 4
  5610:567 Management Strategies 3
  5610:604 Collaboration and Consultation 3
  5610:563 Assessment in Special Education 3
  5610:552 Special Education Programming: Secondary/Transition 3
  5610:551 Special Education Programming: Mild/Moderate I 3
  5610:557 Special Education Programming: Mild/Moderate II 4

• Field Experience: Student Teaching and Practicum (11 credits) or Master’s Project and Practicum (6 credits):
  5610:696 Field Experience: Student Teaching 8
  5610:570 Practicum 3
  or  
  5610:694 Master’s Project 3
  5610:570 Practicum 3

• A comprehensive examination is required.
  Minimum credits required for degree (d): 42-45
students must have approval of the Student Teaching Committee to be placed for student teaching. Committee approval requires that the student submit an approved application for student teaching, evidence of a passing score or scores on the appropriate PRAXIS II subject area test or tests, and evidence of approval of his/her portfolio.

### Licensure

**Educational Foundations and Leadership**

**Educational Administration**

The Department of Educational Foundations and Leadership offers a master’s degree program in general administration which is not directed toward a particular administrative license. With the help of an advisor and approval of the Graduate School, courses may be substituted and/or waived to create specialized options. Requirements of the standard program and examples of two such specialized programs are listed below:

**General Administration (Standard Program)**

(Admissions to General Administration currently suspended)

- **Foundation – 12 credits:**
  - 5100:600 Philosophies of Education 3
  - or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 School Culture and Governance 3
  - or 5100:624 Seminar: Educational Psychology 3
  - 5100:626 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration – 15:**
  - 5170:601 Organizational Leadership 3
  - 5170:604 School-Community Relations 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:613 Student Services and Interagency Collaboration 3

- **Curriculum and Supervision – 6:**
  - 5170:609 Principles of Curriculum Development 3
  - 5170:610 Supervision of Instruction 3
  - Total: 33 credits

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

**The Principalship**

The Department of Educational Foundations and Leadership offers a 30 hour Master’s Degree Program in the Principalship. With the help of an advisor and approval of the Graduate School, courses may be substituted and/or waived to create specialized options. Requirements of the Principalship Master’s Degree Program in Educational Administration are listed below.

**Master’s Degree in Educational Administration**

- 5100:600 Philosophies of Education 3
- 5100:604 Topical Seminar in the Cultural Foundations of Education 3
- 5100:620 School Culture and Governance 3
- or 5100:624 Seminar: Educational Psychology 3
- 5100:640 Techniques of Research 3
- 5170:601 Organizational Leadership 3
- 5170:604 School-Community Relations 3
- 5170:607 School Law 3
- 5170:610 Supervision of Instruction 3
- 5170:620 School Culture and Governance 3
- 5170:613 Student Services and Interagency Collaboration 3
- or 5170:615 Disability Law 3
- Total: 30 credits

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

The Principalship Licensure Program is an option in educational administration designed to prepare a candidate for an Ohio license to practice as a school principal and is built on the appropriate PRAXIS II subject area test or tests, and evidence of approval of the student’s portfolio. The candidate will have a total of 42 post-baccalaureate hours, a master’s degree, and evidence of completing a supervised two semester internship in the area in which the candidate seeks the license, successful passage of the state licensing examination, and completion of a statement of good moral character.
**Administrative 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-master’s block of required courses.

**Administrative Specialist: Educational Research**
*(Admissions to Educational Research currently suspended)*

- **Foundation Studies** – 18 credits:
  - 5100:600 Philosophies of Education 3
  - or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - or 5100:620 School Culture and Governance 3
  - or 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3
  - 5100:642 Topical Seminar in Measurement and Evaluation 3
  - 5100:741 Statistics in Education 3

- **Educational Administration** – 15 credits:
  - 5170:601 Organizational Leadership 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 Organizational Leadership 3
  - 5170:707 The Superintendency 3
  - 5170:743 Advanced Educational Statistics 3
  - 5170:796 Internship* 4
  - 5170:937 Research Seminar 3

*Students admitted to Educational Administration Internship Coursework following Spring of 2004 will be required to pass the state licensure exam prior to enrollment in 5170:795/796.

**Administrative Specialist: Educational Staff Personnel Administration**
*(Admissions to Educational Staff Personnel Administration currently suspended)*

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophies of Education 3
  - or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - or 5100:620 School Culture and Governance 3
  - or 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 Organizational Leadership 3
  - 5170:603 Management of Human Resources 3
  - 5170:604 School Community Relations 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3

- **Post-Master’s Requirements** – 14 credits:
  - 5170:704 Advanced Organizational Leadership 3
  - 5170:705 Decision Making in Educational Administration 3
  - 5170:707 The Superintendency 3
  - 5170:796 Internship* 4
  - 6500:654 Industrial Relations 3

*Students admitted to Educational Administration Internship Coursework following Spring of 2004 will be required to pass the state licensure exam prior to enrollment in 5170:795/796.

**Administrative Specialist: Pupil Personnel Administration**
*(Admissions to Pupil Personnel Administration currently suspended)*

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophies of Education 3
  - or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - or 5100:620 School Culture and Governance 3
  - or 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 Organizational Leadership 3
  - 5170:603 Management of Human Resources 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:608 School Finance and Economics 3
  - 5170:613 Student Services and Interagency Collaboration 3
  - 5170:707 The Superintendency 3

- **Post-Master’s Requirements** – 16 credits:
  - 5600:631 Elementary/Secondary School Counseling 3
  - 5600:653 Group Counseling 3
  - 5600:659 Organization and Administration of Guidance Services 3
  - 5170:704 Advanced Organizational Leadership 3
  - 5170:796 Internship* 4

*Students admitted to Educational Administration Internship Coursework following Spring of 2004 will be required to pass the state licensure exam prior to enrollment in 5170:795/796.

**Administrative Specialist: School and Community Relations**
*(Admissions to School and Community Relations currently suspended)*

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophies of Education 3
  - or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - or 5100:620 School Culture and Governance 3
  - or 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Seminar: Educational Psychology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration** – 21 credits:
  - 5170:601 Organizational Leadership 3
  - 5170:603 Management of Human Resources 3
  - 5170:606 Evaluation in Educational Organizations 3
  - 5170:607 School Law 3
  - 5170:608 School Finance and Economics 3
  - 5170:613 Student Services and Interagency Collaboration 3
  - 5170:707 The Superintendency 3

- **Post-Master’s Requirements** – 16 credits:
  - 5170:704 Advanced Organizational Leadership 3
  - 5170:705 Decision Making in Educational Administration 3
  - 5170:707 The Superintendency 3
  - 5170:796 Internship* 4

*Students admitted to Educational Administration Internship Coursework following Spring of 2004 will be required to pass the state licensure exam prior to enrollment in 5170:795/796.

**Administrative Specialist: Instructional Services**
*(Admissions to Instructional Services currently suspended)*

- **Foundation Studies** – 12 credits:
  - 5100:600 Philosophies of Education 3
  - or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - or 5100:620 School Culture and Governance 3
  - or 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 Organizational Leadership 3
  - 5170:603 Management of Human Resources 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
- 5170:707 The Superintendency 3

- **Post-Master’s Requirements** – 13 credits:
  - 5170:609 Principles of Curriculum Development 3
  - 5170:610 Supervision of Instruction 3
  - 5170:613 Student Services and Interagency Collaboration 3
  - 5170:796 Internship* 4

*Students admitted to Educational Administration Internship Coursework following Spring of 2004 will be required to pass the state licensure exam prior to enrollment in 5170:795/796.

**Superintendent Program**
The Department of Educational Foundations and Leadership offers a Superintendent Licensure-only program. The license builds from the Principalship Master’s Degree and the Principalship Licensure programs. Requirements for the Superintendent License are listed below:

- 5170:608 School Finance and Economics 3
- 5170:704 Advanced Organizational Leadership 3
- 5170:707 The Superintendency 3
To obtain a license to practice the work of a school superintendent in the State of Ohio, through the College of Education, the candidate will have a total of 60 post-baccalaureate hours, a master’s degree, three years of experience practicing under a valid principal license, completion of a supervised two-semester internship, successful passage of the state licensing examination, and good moral character.

### Higher Education Administration

#### Specialized Option

All applicants to the program should have previously earned a bachelor’s degree. Special admission for concurrent studies toward a master’s degree and the higher education certificate may be allowed for persons currently employed in higher education. Persons wishing to pursue a master’s degree in Educational Administration—Higher Education Option must, however, also apply to the Graduate School for admission to the program. Applicants wishing to pursue only the certificate program must apply to the Graduate School for admission as a special non-degree student.

- **Foundation courses (9 credits):**
  - 5100:620 Psychology of Instruction for Teaching and Learning or Multicultural Counseling 3
  - 5100:640 Techniques of Research 3
  - 5100:703 Seminar: History and Philosophy of Higher Education 3

- **Required courses (27 credits):**
  - 5190:515 Administration in Higher Education 3
  - 5190:521 Law and Higher Education 3
  - 5190:528 Student Services and Higher Education 3
  - 5190:527 The American College Student 3
  - 5190:530 Higher Education Curriculum and Program Planning 3
  - 5190:600 Advanced Administrative Colloquium in Higher Education 3
  - 5190:601 Internship in Higher Education 2
  - 5190:602 Internship in Higher Education Seminar 1
  - 5190:620 Finance and Higher Education 3
  - 5190:626 Policy, Assessment, and Accountability in Higher Education 3

Total Hours Required: 36

- **Electives (9 to 12 credits):**
  - 5190:525 Topical Seminar 3
  - 5190:590 Workshop 3-6
  - 5190:635 Instructional Strategies and Techniques for the College Instructor 3

Students must successfully complete a master’s comprehensive examination for the Educational Administration—Higher Education Option.

### Educational Foundations (M.A.)

#### Specialized Options:

- Instructional Technology
- Educational Psychology (admissions suspended)
- Social/Philosophical Foundations of Education
- Research Methodology and Evaluation (admissions suspended)

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. The program consists of:

- College Core Foundation Studies (nine hours)
- Program Requirements for the specialization selected above (minimum of 15 hours)
- Outside Department (minimum of six hours except for Instructional Technology option)
- Master’s Comprehensive Examination (electronic portfolio for Instructional Technology)
- Election of master’s thesis (5100:699), or master’s problem (5100:698), or an additional six semester hours of coursework. Students choosing to do a master’s thesis or master’s problem require 30 semester credits to graduate. Students choosing to do only coursework require 36 semester credits to graduate.

### Instructional Technology Option (30-36 hours)

The graduate program in Educational Foundations emphasizing Instructional Technology has been designed to assist its students in becoming competent, employable professionals, capable of making a significant contribution to the field. The graduate curriculum provides its students with exposure to a wide range of emerging technologies, while still ensuring the basic competencies required of all practitioners. In this way, the program directly addresses the rapidly accelerating changes in the field of interactive and distance learning technologies while still recognizing its roots in instructional design, media, and computer-mediated education.

Master’s degree graduates of the Instructional Technology program have found employment as technology coordinators in school districts, technology resource personnel in K-16 educational institutions, training specialists and instructional designers in business, education, and government, as well as multimedia developers and specialists.

#### Foundation Studies (9 hours)

- 5100:600 Philosophies of Education 3
- 5100:604 Topical Seminar in the Cultural Foundations of Education 3
- 5100:637 Philosophies of Educational Technology 3
- 5100:620 Psychology of Instruction for Teaching and Learning 3
- 5100:624 Seminar: Educational Psychology 3
- 5100:640 Techniques of Research 3

#### Required Courses (12 hours)

- 5100:614 Planning for Technology 3
- 5100:630 Topical Seminar: Advanced Multimedia 3
- 5100:638 Integrating and Implementing Technology 3
- 5100:633 Instructional Design 3
- 5100:695 Field Experience: Master’s 3

#### Electives (choose 9-15 hours from the following)

- 5100:512 Design and Production of Instructional Materials 3
- 5100:520 Introduction to Instructional Computing 3
- 5100:590 Workshop: Instructional Technology (may be repeated for up to 6 credits) 3
- 5100:632 Web-Based Learning Systems 3
- 5100:633 Hypermedia 3
- 5100:634 Visual Literacy 3
- 5100:635 Emerging Technologies 3
- 5100:638 Integrating and Implementing Technology 3
- 5100:639 Strategies for Online Teaching 3
- 5100:696 Master’s Technology Project 3
- 5100:697 Independent Study: Master’s 3
- 5100:698 Master’s Problem 3
- 5100:699 Master’s Thesis 46
- 5100:721 Learning Processes 3
- 5100:732 Statistics in Education 3
- 5170:659 Principles of Curriculum Development 3

### Educational Psychology Option (30-36 hours)

(admissions suspended)

The cognitive theory and research underlie much of the reform movement in education and the allied professions. The graduate program in Educational Foundations emphasizing Educational Psychology emphasizes a strong understanding of cognition, motivation, teaching, learning, and individual differences and is designed to assist students to become more competent practitioners in a wide range of contexts in education and allied professions.

#### Foundation Studies (9 credits)

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

#### Electives (15-21 hours)

- 5100:624 Seminar: Educational Psychology 3
- 5100:630 Topical Seminar in the Cultural Foundations of Education (may be repeated for up to 6 credits) 3
- 5100:636 Topical Seminar in Educational Technology 3
- 5100:642 Topical Seminar in Measurement and Evaluation 3
- 5100:695 Field Experience: Master’s 3
- 5100:721 Learning Processes 3
- 5100:732 Teacher Behavior and Instruction 3
- 5100:698 Master’s Problem 3
- 5100:699 Master’s Thesis 46

#### Outside Department Requirements (6 hours)

- 5500:780 Seminar in CURRICULAR AND INSTRUCTIONAL STUDIES (COOPERATIVE LEARNING) 3

### Social/Philosophical Foundations of Education Option (30-36 hours)

This interdisciplinary graduate program is designed to facilitate professional educators’ developing critical, interpretative, and normative perspectives of the interrelations between educational institutions and society. This program includes the academic disciplines of anthropology of education, comparative/international education, cultural studies in education, history of education, philosophy of education, and sociology of education. Students collaborate with their advisors in selecting one or more of the above disciplines to create a graduate program tailored to their needs, interests, and professional aspirations. Students may be either encouraged or required to study with faculty in other departments or institutions to develop interdisciplinary programs and perspectives.

Graduates of the program can earn a Master of Arts in Education degree in preparation for careers in both traditional and non-traditional educational settings and for further doctoral study in the areas of anthropology of education, comparative/international education, cultural studies in education, history of education, philosophy of education, and sociology of education. Graduates are more employable in positions that require in-depth understanding of the broader social contexts of educational policy.
The University of Akron 2006-2007

Postsecondary Technical Education

The major objective of the postsecondary 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. Beginning Fall 2006 all courses will also be available online.

Admission Requirements

• Full Admission:
  2.75 grade point average on a completed Bachelor’s degree (for 3.0 for last 60 credit hours)
• Provisional Admission:
  2.5 for higher grade point average on a completed Bachelor’s degree

*Those receiving provisional admission must meet with the Technical Education advisor to plan the necessary 9 credits of course work that need to be completed at the graduate level with a grade of “B” or better before the student can be upgraded to full admission.

Program

• Foundation Studies — 12 credits:
  5100:604 Topical Seminar in Cultural Foundations 3
  5100:703 Seminar: History and Philosophy of Higher Education 3
  5400:500 Postsecondary Learner 3

• Professional Technical Education Courses — 22 credits:
  5400:501 Learning with Technology 1
  5400:530 Systematic Curriculum Design for Postsecondary Instruction 3
  5400:535 Systematic Instructional Design in Postsecondary Education 3
  5400:605 Advanced System Design: Needs Assessment and Evaluation 3
  5400:620 Postsecondary Teacher Leadership 3
  5400:660 Postsecondary Distance Learning 3
  5400:675 Advanced Instructional Applications Seminar 3
  5400:680 Internship in Postsecondary Education 3
  5500:641 Techniques of Research 3
  5400:520 Postsecondary Instructional Technology 3

Graduate K-12 Technology Endorsement

This endorsement is only available to teachers or teacher candidates who have obtained or who are simultaneously getting an initial Ohio license/certificate (e.g. in early childhood, middle level, adolescent/young adult, special education, etc.) Individual school districts, not the State of Ohio or the University of Akron, determine the extent to which the endorsement is applicable to their needs and requirements.

For further information on this endorsement contact the Department of Educational Foundations and Leadership.

Sport Science and Wellness Education

The student who expects to earn a master’s degree in the Department of Sport Science and Wellness Education is expected to meet the criteria for admission of the Graduate School.

Outdoor Education

(Admissions to Outdoor Education currently suspended)

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

• Foundation Studies — nine credits.
• Required Foundation Courses:
  5500:699 Master’s Thesis 6
  5500:698 Master’s Thesis 6
  5500:699 Master’s Thesis 6

36 total hours are required.

• A comprehensive exam is required.

Physical Education

The graduate program in physical education, requiring 33 credits, is designed for post-baccalaureate and in-service physical educators. Training received in this program comes from two (2) areas: the foundations (6 cr.) and the program studies area of physical education (25 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?” Students will be assigned an advisor with whom they should consult on a regular basis. In fact, advisor approval is required on certain course work.
Required Foundation Courses:

- Philosophy of Education 3
- Topical Seminar in the Cultural Foundations of Education 3
- Psychology of Instruction for Teaching and Learning 3
- Seminar: Educational Psychology 3
- Techniques of Research 3
- Subtotal 6

Required Department Courses:

- Foundations and Elements of Adapted Physical Education 3
- Sports Administration and Supervision 3
- Motor Behavior Applied to Sports 3
- Current Issues in Physical Education 3
- Tactics and Strategies in the Science of Coaching 3
- Physiology of Muscular Activity and Exercise 3
- Qualitative and Quantitative Methods 3
- Motivational Aspects of Physical Activity 3
- Comprehensive School Health 4
- Field Experience: Master’s 2 (minimum)
- Master’s Problem 2 (minimum)
- Master’s Thesis 2 (minimum)
- Total Program 33

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

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 also given to knowledge and practical skills necessary for students preparing for American College of Sports Medicine certifications.

- Psychology of Instruction for Teaching and Learning 3
- Seminar: Educational Psychology 3
- Techniques of Research 3
- Subtotal 6

Required Department Courses:

- Musculoskeletal Anatomy I 3
- Biomechanics Applied to Sports and Physical Activity 4
- Respiratory Physiology 3
- Musculoskeletal Anatomy II 3
- Advanced Cardiovascular Physiology 3
- Physiology of Muscular Activity and Exercise 3
- Statistics: Qualitative and Quantitative Methods 3
- Special Topics in Health and Physical Education: Laboratory Instrumentation 3
- Sports Nutrition 3
- Field Experience: Master’s 2 (minimum)
- Master’s Problem 2 (minimum)
- Master’s Thesis 2 (minimum)
- Total Program 33

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

- Community health; family counseling; mental and emotional health, current topics in health education; methods of teaching/instructional design; learner and learning process; evaluation and measurement of learning; principles; comprehensive school health; advanced pediatric/adolescent assessment; advanced nursing research.

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

- Introduction to Instructional Computing 3
- Statistics in Education 3
- Advanced Education Statistics 3
- Sports Administration and Supervision 3
- Motivational Aspects of Physical Activity 3

Option: Sport Science/Coaching

This sport science/coaching graduate program option has been designed to meet the needs of physical education teachers and practicing/prospective coaches. This program meets published NASPE National Standards.

Required Foundation Courses:

- Psychology of Instruction for Teaching and Learning 3
- Current Issues in Physical Education and
- Techniques of Research 3
- Subtotal 6

Required Courses:

- Injury Management for Teachers and Coaches 2
- Advanced Athletic Injury Management: Upper Extremity 4
- Principles of Coaching 3
- Legal/Ethical Issues in Physical and Leisure Activity 2
- Sports Administration and Supervision 3
- Motor Behavior Applied to Sports 3
- Tactics and Strategies in the Science of Coaching 3
- Physiology of Muscular Activity and Exercise 3
- Motivational Aspects of Physical Activity 3
- Sports Nutrition 3
- Field Experience: Master’s 2 (minimum)

Evaluates: The following courses are relevant to this degree. The student may select additional courses and/or workshops related to the graduate program:

- Workshop (e.g., Issues of Student Athletes) 1-5
- Statistics: Qualitative and Quantitative Methods 3
- Special Topics (e.g., Coaching Youth Sports) 1-5
- Comprehensive School Health 4
- Total Program 35

School Nurse License Program

(Admission to School Nurse License Program currently suspended)

Admission Requirements—Sequence 2

- R.N. License
- B.S.N. Degree
- Admittance to Graduate School
- Admittance to College of Education (Graduate Studies)
- Admittance to College of Nursing (Special/Non-Degree status)
- Selected coursework in College of Education and College of Nursing
- Supervised School Nurse experience
- Course work distributed over the following areas:
  - Community health; family counseling; mental and emotional health, current topics in health education; methods of teaching/instructional design; learner and learning process; evaluation and measurement of learning; principles; comprehensive school health; advanced pediatric/adolescent assessment; advanced nursing research.

To satisfy the above requirements, an applicant must complete at least the following 12 graduate credits or their equivalents of College of Education core courses listed below:

- Community Health 2
- Comprehensive School Health 4
- Methods and Materials of Teaching Health Education 3
- Statistics in Education 3
- Subtotal 12

Applicant must also complete 11-16 graduate credits of College of Nursing courses listed below:

- Advanced Pediatric/Adolescent Assessment 3
- Nursing Inquiry I 3
- School Nurse Practicum I 5
- School Nurse Practicum II (required of all school nursing students) 5
- Subtotal 11-16

Optional if continuing on to a master’s degree in the College of Nursing:

- Pathophysiological Concepts 3
- Pharmacology for Child and Adolescent Health Nursing 3
- Total graduate credits for licensure 23-28

Admission Requirements—Sequence 3

- Admittance to the College of Nursing MSN Program—Child and Adolescent Track
- Admittance to College of Education (Special/Non-Degree status)
- Completion of the MSN Program in the Child and Adolescent Track
- Plus 12 graduate credits of College of Education core courses:
  - Community Health 2
  - Comprehensive School Health 4
  - Methods and Materials of Teaching Health Education 3
  - Elective within College of Education (upon approval of College of Education school nurse licensing advisor)
  - Subtotal 12

Master’s degree plus licensure.

*The school nurse practicum is contained in the MSN program in 8200:651 and 655 which fulfill the requirements of 8200:553 and 554.
College of Business Administration

Mission Statement

The MBA program is the principal 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 team work 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 1952 through the College of Business Administration. In 1958, graduate studies in business were begun. Both the undergraduate and master's programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB).

During its long tradition, the college has sought to fulfill the educational and professional needs of its 450 graduate students, the community and regional business organizations. To meet its urban objectives, the college offers most graduate courses 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 (1) of the following eligibility requirements which are in conformity with the Graduate School and the college’s accrediting agency (AACSB).

- Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,000 or more points based upon the overall undergraduate grade-point average (GPAs) A = 4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.
- Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based on the junior-senior (i.e., last 64 semester or 96 quarter credits) GPA (A = 4.0) times 200 plus the GMAT score.
- Hold a degree from outside the United States and have an academic standing of first or high second class, satisfactory evidence of competence in English (i.e., TOEFL score of 550 or above) and a score of at least 450 on the GMAT.

Even though an applicant is eligible for consideration, an offer of admission is not guaranteed. Since staff, facilities and resources are limited, a determination must be made as to the number of applicants who can be adequately served among those eligible. As a result, offers of admission may be limited to 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. For example, students admitted into the graduate business programs since January 1, 2004, had an average GMAT of 570 and an average point index of 1200.

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. Students admitted as special non-degree are restricted to enrolling in foundation courses only.

**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 for admission. Scores for admission will not be delayed. GMAT registration bulletins can be obtained from the Graduate Programs in Business Office or the Educational Testing Service, Box 966-R, Princeton, NJ 08540. Those who have taken the GMAT 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.

Questions regarding these Policies, Procedures, and Requirements may be sent via e-mail to gradcba@uakron.edu. Further information may be found at the College of Business Administration website: http://www.uakron.edu/cba/grad.

Transfer Policy

The College of Business Administration will permit nine credits of comparable graduate credit to be transferred into any of the graduate business programs (10 law school credits into the JD/M.Taxation program). These credits 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 13 following areas: accounting, electronic business, entrepreneurship, finance, global sales management, health care management, international business, international finance, management, management of technology and innovation, strategic marketing, or supply chain 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. Beginning with the Fall 1999 semester, some foundation level courses are available over the World Wide Web. Students should contact the graduate programs office for more information about web-based courses.

- **Foundation Courses:**
  - All are required unless waived at the time of admission. Foundation courses may not be used as concentration or elective courses.
  - 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 (16 credits):**
  - 6200:610 Process Analysis and Cost Management 3
  - 6400:631 Strategic Financial Decision Making 3
  - 6500:670 Management of Operations 3
  - 6600:620 Strategic Marketing Management 3
  - 6700:696 Special Topics in Professional Development: Leadership 1
  - 6800:606 International Business Environments 3

- **Concentration (12 credits):**
  - The student must select 12 credits in a field of concentration (accounting, electronic business, entrepreneurship, finance, global sales management, health care management, international business, international finance, management, management of technology and innovation, strategic marketing, or supply chain management).
  - Plus any 9 credits in International Business.

- **Free Electives (3 credits):**
  - The student may select 3 credits of free electives outside the area of concentration. 500-level courses may be used but the student may not count more than 6 credits of 500-level courses in total toward the fulfillment of degree requirements. Accounting students may take only 3 credits of 500-level coursework. Approval of Director is required.

- **Integrative (3 credits):**
  - 6600:695 Business Strategy and Policy: Domestic and International 3

- **Program Summary**
  - Foundation Core 24
  - Functional Core 16
  - Concentration 12
  - Free Electives 3
  - Integrative 3
  - Total Program 58

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

### Concentration in Accounting

Beginning Fall 2006 no new students will be accepted to the MBA (Accounting Concentration) until further notice.

The MBA (Accounting Concentration) consists of 12 graduate credit hours of accounting course work. The School of Accountancy recommends that students select courses that allow them to focus on their concentration in one of the three broad areas of accounting-financial reporting, taxation, or accounting information systems.

### Concentration in Electronic Business (E-Business)

- **Required:**
  - 6500:620 E-Business Foundations 3
  - 6500:622 E-Business Technologies 3

- **Choose 6 credits from the following:**
  - 6200:658 Enterprise Risk Assessment and Assurances 3
  - 6400:685 E-Business Legal Issues 3
  - 6600:632 E-Business Marketing Strategies and Tactics 3

- **Recommended elective (3 credits):** select additional course from the list above

### Concentration in Entrepreneurship

Students work with entrepreneurs and venture capitalists in the formulation of business plans based on new products that will be presented at international business plan competitions. Students learn entrepreneurial skills related to starting or buying a small business, working for a fast growth business or corporation, family business, and franchising.

### Concentration in Finance

The MBA Finance Concentration provides the student with the decision tools and analytical skills needed for the successful financial management of the firm.

- **Required (3 credits):**
  - 6400:631 Financial Markets and Institutions 3
  - 6400:645 Investment Analysis 3
  - 6400:678 Capital Budgeting 3

- **Choose three credits from the following:**
  - 6400:538 International Banking 3
  - 6400:650 Techniques of Financial Modeling 3
  - 6400:681 Multinational Corporate Finance 3
  - 6400:690 Selected Topics in Finance 3
  - 6400:691 International Markets and Investments 3
  - 6400:697 Independent Study in Finance 3
  - 6400:698 Independent Study: Business Law 3

### Concentration in Global Sales Management

- **Required (complete all 6 credits):**
  - 6600:575 Business Negotiations 3
  - 6600:580 Sales Management 3

- **Electives (choose 6 credits from the following):**
  - 6350:671 International Trade 3
  - 6500:656 Management of Global Supply Chain and Operations 3
  - 6800:685 Multinational Corporations 3
  - 7600:645 Intercultural Communication Theory 3

### Concentration in Health Care Management

- **Required:**
  - 6500:580 Introduction to Health Care Management 3
  - 6500:663 Data Analysis for Managers 3
  - 6500:683 Health Services Systems Management 3

- **Choose three credits from the following:**
  - 6500:582 Health Services Operations Management 3
  - 6500:585 Special Topics in Health Services Administration 3
  - 6500:688 Health Services Research Project 3
  - 6500:688 Independent Study in Health Services Administration 3
  - 3350:690 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
  - 3350:540 Special Topics: Economics (Medical) 3
  - 3850:615 Epidemiologic Methods in Health Research 3
  - 3850:656 Sociology of Health Care 3
  - 3980:622 Urban Planning and Health Care 3
  - 4800:630 Biomedical Computing 3
  - 8200:632 Fiscal Management in Nursing Administration 3

No more than six credits at the 500-level permitted.

### Concentration in International Business

- **Required (choose one of the following courses):**
  - 6400:650 Techniques of Financial Modeling 3
  - 6500:662 Supply Chain Analysis 3
  - 6500:663 Data Analysis for Managers 3
  - 6500:640 Business Research Methods 3

- **Plus any 9 credits in International Business:**
  - 6800:630 International Marketing Policies 3
  - 6800:685 Multinational Corporations 3
  - 6800:690 Seminar in International Business 3
  - 6800:697 Independent Study in International Business 3
  - 6200:680 International Accounting 3
  - 6400:538 International Banking 3
  - 6400:681 Multinational Corporate Finance 3
  - 6400:691 International Markets and Investments 3
  - 6500:656 Management of Global Supply Chain and Operations 3
  - 6500:659 International Human Resource Management 3
  - 6500:681 Comparative Systems of Employee and Labor Relations 3

International Business students must ALSO 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:
   - 3250:550 Development Planning 3
   - 3250:550 Comparative Economic Systems 3
   - 3250:560 Economics of Developing Countries 3
   - 3250:670 International Monetary Economics 3
   - 3250:671 International Trade 3
   - 3350:650 Development Planning 3
   - 3350:633 Comparative Planning 3
Required:

- Manufacturing agility, new product development, knowledge management, and innovation in organizations. Value is added by a holistic integration of intellectual capital.

Concentration in International Business for International Executives

- Required (choose one of the following courses):
  - 6200:664 Research and Quantitative Methods in Accounting
  - 6400:650 Techniques of Financial Modeling
  - 6500:662 Applied Operations Research
  - 6500:663 Data Analysis for Managers
  - 6600:640 Business Research Methods

- Plus any 9 credits in International Business:
  - 6800:650 International Marketing Policies
  - 6900:685 Multinational Corporations
  - 6900:690 Seminar in International Business
  - 6900:697 Independent Study in International Business

Concentration in Supply Chain Management

- Required (9 credits):
  - 6500:664 Research and Quantitative Methods in Accounting
  - 6500:662 Applied Operations Research
  - 6500:663 Data Analysis for Managers

International Business students must ALSO 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:
   - 3250:530 Comparative Economic Systems
   - 3250:560 Economics of Developing Countries
   - 3250:670 International Monetary Economics
   - 3250:671 International Trade
   - 3350:538 World Metropolitan Areas
   - 3350:550 Development Planning
   - 3350:633 Comparative Planning
   - 3400:516 Modern India
   - 3400:573 Latin America: The Twentieth Century
   - 3400:575 Mexico
   - 3700:506 Policies in the Middle East
   - 3700:512 Global Environmental Politics

*Cross-cultural courses may be used for free elective credits.

Concentration in International Finance

This program prepares students for careers in international finance with emphasis in corporate banking or investment areas. With the globalization of business, international finance has emerged as a major program for students interested in international business operations.

- Required (9 credits):
  - 6400:681 Multinational Corporate Finance
  - 6400:691 International Markets and Investments
  - 6500:656 Management of International Operations
  - 6500:659 International Human Resource Management

- Choose three credits from the following:
  - 6200:680 International Accounting
  - 6400:681 Multinational Corporate Finance
  - 6400:691 International Markets and Investments
  - 6500:656 Management of International Operations
  - 6500:659 International Human Resource Management
  - 6600:661 Comparative Systems of Employee and Labor Relations

Concentration in Management

- Required:
  - 6500:664 Research and Quantitative Methods in Accounting
  - 6500:662 Applied Operations Research
  - 6500:663 Data Analysis for Managers

- Choose 9 graduate credits from 6500. No more than 6 credits at the 500 level.

Concentration in Management of Technology and Innovation

This program focuses on enterprise-wide management of technology and innovation in organizations. Value is added by a holistic integration of intellectual capital, manufacturing agility, new product development, knowledge management, and other competencies.

- Required:
  - 6500:664 Research and Quantitative Methods in Accounting
  - 6500:662 Applied Operations Research
  - 6500:663 Data Analysis for Managers
  - 6500:665 Management of Technology
  - 6500:669 Polymer Management Decisions
  - 6600:540 Product and Brand Management

*Recommended free elective (3 credits):
- Select one course from the following courses.
  - 6500:664 Research and Quantitative Methods in Accounting
  - 6500:662 Applied Operations Research
  - 6500:663 Data Analysis for Managers

Concentration in Strategic Marketing

- Required (9 credits):
  - 6600:640 Business Research Methods
  - 6600:645 Innovative Marketing Strategies
  - 6600:670 Competitive Business Strategies

- Choose three credits from the following:
  - 6600:540 Product and Brand Management
  - 6600:630 Marketing of Services
  - 6600:635 E-Business: Electronic Marketing
  - 6600:655 Marketing Communications

Concentration in Supply Chain Management

- Required:
  - 6500:675 Supply Chain Management

- Choose 9 credits from the following:
  - 6500:633 Supply Chain Logistics Planning
  - 6500:656 Management of Global Supply Chains and Operations
  - 6500:662 Supply Chain Analysis
  - 6500:676 Supply Chain Sourcing
  - 6600:678 Project Management

Master of Science in Accountancy

The Master of Science in Accountancy is an advanced professional degree that offers students the opportunity to develop substantive knowledge, skills, and abilities in accounting. The program offers students flexibility to combine their accounting backgrounds with coursework in information systems and finance. It also allows students without undergraduate degrees in accounting to combine their diverse backgrounds with a graduate degree in accounting. Students may pursue a professional accountancy option or an accounting information systems option.

Program Learning Goals

Consistent with the School’s mission, students in the program will:

- Develop advanced knowledge and understanding of accounting concepts, the regulatory environment, and professional practice issues and challenges;
- Enhance their critical thinking skills and develop the ability to apply advanced knowledge of accounting concepts, principles and practices in innovative ways;
- Develop the ability to research accounting issues and write research reports that incorporate qualitative and quantitative data analysis and integrate information from multiple sources;
- Demonstrate effective written and oral communication skills;
- Understand and appreciate the role of information technology in contemporary accounting, research, and decision-making; and
- Understand and appreciate the significance of ethics, professionalism, and social responsibility in accounting.

Admission Requirements

The MSA curriculum consists of 30 semester credits. Admission to the program is open to the following individuals:

1. Individuals with undergraduate degrees in accounting from a regionally accredited institution or international equivalent.
2. Individuals with a non-accounting undergraduate business degree from a regionally accredited institution or international equivalent.
3. Individuals with a non-business undergraduate degree from a regionally accredited institution or international equivalent.

All students must earn a satisfactory score on the GMAT in order to be accepted into the program.

The Program

Individuals in categories 2 and 3 must complete all Pre-MSA foundation courses and Pre-MSA financial reporting courses listed below. Students who have completed similar courses at the undergraduate or graduate level may apply for waivers. Applications for waivers will be reviewed on a case-by-case basis, considering such factors as the student’s background, work experience, institution, grades earned, and date when similar courses were taken.

- **Pre-MSA Foundation Courses (12 credits):**
  - 6200:603 Accounting Decision Support Systems
  - 6400:602 Managerial Finance
  - 6400:623 Legal Aspects of Business Transactions
  - 6500:601 Quantitative Decision Making

- **Pre-MSA Financial Reporting Courses (3 credits):**
  - 6200:603 Accounting Decision Support Systems
  - 6400:602 Managerial Finance
  - 6400:623 Legal Aspects of Business Transactions
  - 6500:601 Quantitative Decision Making
Students in the MSA must complete a total of 30 credits from the groups of courses listed below. At least 21 credits must be at the 600-level; a minimum of 15 credits must be graduate accounting (6200) courses; and at least 12 credits must be 600-level accounting (6200) courses.

**Group A:** Accounting and Assurance Core (12 - 15 credits):
- 6200:321 Intermediate Accounting I or equivalent
- 6200:322 Intermediate Accounting II or equivalent
- 6200:610 Process Analysis and Cost Management
- 6200:541 Auditing

*Students are required to take a different taxation course if they have completed the equivalent of 6200:627 or 6200:531. Students are required to complete at least one course at the undergraduate level must take a different course.*

**Group B:** Taxation Core (3 - 6 credits):
- 6200:627 Survey of Federal Taxation
- 6200:531 Taxation I
- 6200:658 Enterprise Risk Assessment and Assurance
- 6200:631 Corporate Taxation I
- 6200:628 Advanced Accounting

*All courses in this group are required, except for 6200:520, which is not required for its must be graduate accounting (6200) courses; and at least 12 credits must be 600-level accounting (6200) courses.*

**Group C:** Accounting Electives (0 - 6 credits):
- 6200:554 Information Systems Security
- 6200:570 Government and Institutional Accounting
- 6200:659 Assurance Services and Data Mining
- 6200:631 Corporate Taxation I

These electives are open only to students who have not previously completed similar courses.

**Group D:** Information Systems Electives (0 - 12 credits):
- 6500:643 Analysis and Design of Business Systems
- 6500:641 Business Database Systems
- 6500:648 Management of Telecommunications
- 6500:678 Project Management

The Chair of the School of Accountancy may approve or substitute other relevant information systems courses not listed in Group D above. Students pursuing the Accounting Information Systems Option must complete a minimum of 12 credits of information systems courses (i.e., Group D and accounting information systems courses from Group C).

**Group E:** Finance Electives (0 - 15 credits):
- 6400:631 Financial Markets and Institutions
- 6400:645 Investment Analysis
- 6400:674 Strategic Financial Decision Making
- 6400:681 Multinational Corporate Finance
- 6400:691 International Markets and Investments

The Chair of the School of Accountancy may approve or substitute other relevant finance courses not listed in Group E above.

### Master of Taxation

The Master of Taxation (MTax) Program is a professional degree designed to provide intensive training for individuals with an interest in developing specialized skills in the area of taxation. The program is intended for practicing accountants and attorneys who wish to further or pursue a career in taxation. However, other individuals with a four-year degree in business or accounting from a regionally accredited institution of higher learning (or international equivalent) may also find the program valuable and manageable. The program offers substantive technical and professional knowledge, skills, and abilities needed to function as a taxation specialist in the United States. Students in the program will:

- Develop substantive and comprehensive knowledge of federal taxation;
- Understand the state and local taxation regimes of selected states, including the State of Ohio;
- Develop abilities to research taxation issues, identify and solve taxation problems, and plan taxation strategies;
- Develop the ability to contribute as a taxation specialist to strategic planning and decision-making in organizations;
- Demonstrate effective written and oral presentation skills; and
- Demonstrate ability to use information technology for researching and solving taxation problems.

The MTax curriculum consists of 30 semester credits. Admission to the program is open to the following individuals:

1. Certified Public Accountants and other accountants with equivalent credentials with at least a bachelor’s degree.
2. Individuals with an undergraduate degree in accounting from a regionally accredited institution or international equivalent.
3. Individuals with a JD.
4. Individuals who plan to pursue the joint JD/MTax degree (JD students must complete the first year of law school if full-time or the second year of law school if part-time before they can take courses in the MTax program).
5. Individuals with an undergraduate degree in business from a regionally accredited institution or international equivalent.
6. Other individuals who demonstrate a high potential to succeed in the MTax program (based on GMAT scores, undergraduate GPA, letters of recommendation, and prior work experience) and who have earned at least a B average in 6200:601 Financial Accounting (or equivalent) and 6200:627 Survey of Federal Taxation (or equivalent).

All students must earn a satisfactory score on the GMAT (or equivalent) prior to being admitted into the program. Individuals in categories 3 and 5 must complete and introduction to financial accounting course and a federal income taxation course before they begin taking MTax courses. These courses may be taken at the graduate or undergraduate level. Students should plan to complete those courses in the summer or earlier prior to starting the required MTax courses.

Students are encouraged to begin the program in the fall. Full-time students who begin the program in fall will normally complete all requirements for graduation in two semesters. Part-time students who start in fall can complete all requirements for graduation within two years.

**Required Master of Taxation Courses:**
- 6200:628 Tax Research
- 6200:631 Corporate Taxation I
- 6200:632 Taxation of Transactions in Property
- 9200:721 Taxation of Intellectual Property
- 6200:641 Taxation of Partnerships
- 6200:648 Tax Practice and Procedure
- 6200:643 Tax Accounting
- 6200:649 State and Local Taxation
- 6200:651 International Taxation

**Approved Taxation Electives:**
- 6200:633 Estate and Gift Taxation
- 6200:642 Corporate Taxation II
- 6200:644 Income Taxation of Decedents, Trusts, and Estates
- 6200:645 Advanced Individual Taxation
- 6200:646 Consolidated Tax Returns
- 6200:647 Qualified Pension and Profit-Sharing Plans
- 6200:650 Estate Planning
- 6200:662 S Corp
- 6200:693 Selected Topics: Mergers and Acquisitions

Not all elective classes will be offered each year. Electives will be offered based on demand and faculty resource availability. 6200:626 Tax Research must be taken in the first semester that the class is available.

### Master of Science in Management

The Master of Science in Management program allows students to concentrate their academic study in one of the 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 area. The remaining 18 credits of coursework consists of one 3-credit specialization course, 18 credits of specialization courses and one 3-credit free elective. If all foundation courses are waived, the program is 33 credits in length.

**Foundation Core:**

- 3250:600 Foundations of Economic Analysis
- 6200:601 Financial Accounting
- 6400:602 Managerial Finance
- 6400:655 Government and Business
- 6500:600 Management and Organizational Behavior
- 6500:601 Quantitative Decision Making
- 6500:602 Computer Techniques for Management
- 6600:600 Marketing Concepts

**Management Core Courses (12 credits):**
- 6500:646 Business Process Integration
- 6500:652 Organizational Behavior
- 6500:683 Data Analysis for Managers
- 6500:675 Supply Chain Management
Courses from the following list may be applied to the MTax program:
Upon the approval of the director of Graduate Programs in Business, 9 credits of Foundation courses are required.
(J.D./M.Tax.), 102 (J.D./M.B.A.), or 101 (J.D./M.S.M.-HR) credits is required, depending on the student's needs.
Courses used to fulfill CBA requirements must be approved by the director of Graduate Programs in Business Administration.

**Options:**
Choose a concentration from the following:

**Information Systems Management (ISM)**
- **ISM Required Concentration Courses (12 credits)**
  - 6500:641 Business Database Systems
  - 6500:643 Analysis and Design of Business Systems
  - 6500:648 Management of Telecommunications
  - 6500:645 Advanced Management Information Systems
- **ISM Restricted Electives (6 credits)**
  - 6500:605 Business Applications Development*
  - 6500:620 E-Business Foundations
  - 6500:644 Knowledge Management and Business Intelligence
  - 6500:658 Enterprise Risk Assessment and Assurance
  - Any 6500:6xx non-foundation course

*Has to be taken if business application development proficiency requirement has not been satisfied.

**Human Resource Option (HRM)**
- **HRM Required Concentration Courses (15 credits)**
  - 6500:650 Human Resource Systems for Managers
  - 6500:658 Strategic and Global Human Resource Management
  - 6500:660 Staffing and Employment Regulation
  - 6500:651 Management of Organizational Transformation
  - 6500:654 Management of Organizational Conflict
- **HRM Restricted Electives (select 3 credits)**
  - Any 6500:6xx concentration course

**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.), a joint program in legal and taxation studies (J.D./M.Tax.) and a joint program in legal and human resource studies (J.D./M.S.M.). These combinations are open to the student preparing for a career in such areas as corporate law, tax accounting, human resource management 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 each of these cooperative programs, 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 9 to 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 26 credits for M.B.A. (24 for the M.S.M.-HR) of advanced courses in the CBA plus nine credits transferred from the School of Law. The Master of Taxation program consists of 21 credits of advanced courses in the CBA plus 9 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 Administration.
Upon the approval of the director of Graduate Programs in Business, 9 credits of School of Law courses may be applied toward the Masters of Taxation degree. Law courses from the following list may be applied to the MTax program:

- 9200:641 Corporate Taxation I (3 credits)
- 9200:721 Taxation of Intellectual Property (3 credits)

Other courses offered in the School of Law as approved by the Chair of the School of Accountancy and the MTax program coordinator

<table>
<thead>
<tr>
<th>Courses that will transfer as MTax elective courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9200:639 Estate and Gift Taxation (3 credits)</td>
</tr>
<tr>
<td>9200:645 Non-profit Tax Entities (3 credits)</td>
</tr>
<tr>
<td>9200:675 Special Problems in Estate Planning (3 credits)</td>
</tr>
<tr>
<td>9200:680 Qualified Pension and Profit Sharing Plans (3 credits)</td>
</tr>
<tr>
<td>9200:684 Entities (3 credits)</td>
</tr>
<tr>
<td>9200:686 Wills, Trusts, and Estates (3 credits)</td>
</tr>
<tr>
<td>9200:687 Mergers and Acquisitions (3 credits)</td>
</tr>
</tbody>
</table>

Other courses offered in the School of Law as approved by the Chair of the School of Accountancy and the MTax program coordinator

- 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 prerequisites 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.
- J.D./M.S.M.-HR students may transfer nine credits of School of Law courses into the M.S.M. program. Six credits must be in their area of concentration and must be selected from the courses listed below. Three credits of free electives may be chosen from other business-related law courses and must be approved by the director of graduate programs in Business Administration.

**Law Courses to be used as MBA Concentration Courses**

**Choices for Concentration Electives:**

- Accounting (choose 6 credits)
  - 9200:639 Estate and Gift Taxation
  - 9200:640 Individual Taxation
  - 9200:641 Corporate Taxation
  - 9200:666 Taxation of Partnerships
  - 9200:680 Qualified Pensions and Profit Sharing
  - 9200:686 Wills, Trusts and Estates I, II

- Finance (choose 6 credits)
  - 9200:629 Commercial Law II
  - 9200:636 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
  - 9200:686 Wills, Trusts and Estates I, II

- International Business (choose 6 credits)
  - 9200:649 International Law
  - 9200:676 International Trade
  - 9200:691 International Investments and Commercial Transactions

- Management (choose 6 credits)
  - 9200:626 Basic Business Associations
  - 9200:633 Corporations
  - 9200:637 Employment Discrimination
  - 9200:642 Alternative Dispute Resolution
  - 9200:650 Labor Law and Collective Bargaining
  - 9200:651 Employment Law
  - 9200:659 Negotiation

- Marketing (choose 6 credits)
  - 9200:627 Commercial Law I
  - 9200:659 Lawyer as Negotiator
  - 9200:662 Media Law
  - 9200:667 Patent Law
  - 9200:672 Seminar in Business Planning
  - 9200:683 Seminar in Product Liability
  - 9200:684 Sports and Entertainment Law

- **Law Courses to be used as MSM-HR Concentration Courses**

- 9200:637 Employment Discrimination
- 9200:642 Alternative Dispute Resolution
- 9200:651 Employment Law
- 9200:659 Negotiation
- 9200:684 Mediation

- Options:
- **ISM Required Concentration Courses (12 credits)**
  - Business Database Systems
  - Analysis and Design of Business Systems
  - Management of Telecommunications
  - Advanced Management Information Systems
- **ISM Restricted Electives (6 credits)**
  - Business Applications Development*
  - E-Business Foundations
  - Knowledge Management and Business Intelligence
  - Enterprise Risk Assessment and Assurance
  - Any 6500:6xx non-foundation course

*Has to be taken if business application development proficiency requirement has not been satisfied.
Doctor of Audiology Program (Au.D.)
The Au.D. is a four-year post-baccalaureate professional doctoral degree program. Doctors of Audiology are independent professionals who specialize in the diagnosis, management, and treatment of hearing and balance disorders.

The Au.D. program, which is known as the Northeast Ohio Au.D. Consortium (NOAC), is a joint degree program administered by The University of Akron and Kent State University. NOAC is a single unified program of faculty, students, facilities, and resources. Students take classes and participate in clinics at both The University of Akron and Kent State University with half of the classes offered at each university. Students must choose to be admitted to NOAC either through The University of Akron or Kent State University and they will register for courses on the campus where they are admitted. All classes are cross-listed.

Admission Requirements:
- Bachelor’s degree from an accredited college or university
- Grade point average of 3.0 or higher
- Three letters of recommendation
- Graduate Record Examination scores
- Personal statement of purpose as to why the applicant wishes to become an audiologist

Degree Requirements - Doctor of Audiology
The Au.D. curriculum is a continuous 48 month post-baccalaureate course of study designed to integrate classroom, laboratory, and clinical experiences. All students will attend full-time and take the same courses in appropriate sequence. The emphasis of the program is on the principles and practices underlying evaluation, treatment, and provision of hearing care services.

For progression and graduation, students must meet the following degree requirements:
- Maintain an overall grade point average of 3.0
- Complete a minimum of 122 semester credits
- Accrue 2000 clock hours of clinical experience
- Meet the requirements for Ohio licensure in Audiology
- Pass academic and clinical competency-based examinations
- Complete the following required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7700:701</td>
<td>Basic and Applied Acoustics in Audiology</td>
<td>4</td>
</tr>
<tr>
<td>7700:702</td>
<td>Anatomy and Physiology of the Peripheral Auditory &amp; Vestibular System</td>
<td>3</td>
</tr>
<tr>
<td>7700:703</td>
<td>Acoustic Phonetics</td>
<td>4</td>
</tr>
<tr>
<td>7700:704</td>
<td>Critical Analysis of Research in Audiology</td>
<td>2</td>
</tr>
<tr>
<td>7700:704</td>
<td>Directed Observation in Audiology I</td>
<td>1</td>
</tr>
<tr>
<td>7700:706</td>
<td>Auditory Disorders</td>
<td>2</td>
</tr>
<tr>
<td>7700:706</td>
<td>Anatomy and Physiology Underlying Neuro-Otology</td>
<td>4</td>
</tr>
<tr>
<td>7700:707</td>
<td>Psychoacoustics</td>
<td>3</td>
</tr>
<tr>
<td>7700:708</td>
<td>Critical Analysis of Research in Audiology II</td>
<td>2</td>
</tr>
<tr>
<td>7700:709</td>
<td>Directed Observation in Audiology II</td>
<td>1</td>
</tr>
<tr>
<td>7700:709</td>
<td>Audiology Assessment</td>
<td>3</td>
</tr>
<tr>
<td>7700:710</td>
<td>Industrial and Community Noise</td>
<td>3</td>
</tr>
<tr>
<td>7700:711</td>
<td>Clerkship I</td>
<td>1</td>
</tr>
<tr>
<td>7700:712</td>
<td>Speech-Language Pathology for the Audiologist</td>
<td>3</td>
</tr>
<tr>
<td>7700:712</td>
<td>Diagnosis of Auditory Disorders</td>
<td>3</td>
</tr>
<tr>
<td>7700:713</td>
<td>Hearing Aid Technology</td>
<td>4</td>
</tr>
<tr>
<td>7700:714</td>
<td>Gerontological Issues in Audiology</td>
<td>3</td>
</tr>
<tr>
<td>7700:714</td>
<td>Clerkship II</td>
<td>1</td>
</tr>
<tr>
<td>7700:715</td>
<td>Central Auditory Processing: Evaluation and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

- 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.
- 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 four options, with a minimum of 40 credits. (Child Life minimum is 42 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 academic advisor, from within School or in another discipline. These are chosen to strengthen student's professional goals.

- Complete 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:064</td>
<td>Orientation to Graduate Studies in Family and Consumer Sciences</td>
<td>1</td>
</tr>
<tr>
<td>7400:080</td>
<td>Historical and Conceptual Bases of Family and Consumer Sciences</td>
<td>3</td>
</tr>
<tr>
<td>7400:085</td>
<td>Research Methods in Family and Consumer Sciences</td>
<td>3</td>
</tr>
</tbody>
</table>

Masters 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 and family development; child life; clothing, textiles and interiors; 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 the following score:
  - 800 combined on verbal and quantitative with at least a 4.5 on analytical writing;
  - 900 combined on verbal and quantitative with at least a 4.0 on analytical writing
- Submission of a letter of personal career goals or statement of purpose, sent to the director of graduate studies in the School of Family and Consumer Sciences.

Two letters of recommendation must be submitted.

Accepted students will be expected to comply with the following requirements:

- Complete the course of study in one of the four options, with a minimum of 40 credits. (Child Life minimum is 42 credits)
- 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.
## Child and Family Development Option

### Core Courses:

- 3400:602 Family in Lifespan Perspective 3
- 3400:605 Developmental Parent-Child Interactions (online) 3
- 3400:610 Child Development Theories 3
- 3400:665 Development in Infancy and Early Childhood 3

### Option Electives

Select 9 credits from the following courses with approval of advisor (if a course has been taken at the undergraduate level, other courses must be selected):

- 3400:507 American Families in Poverty 3
- 3400:504 Middle Childhood and Adolescence 3
- 3400:506 Family Financial Management 3
- 3400:540 Family Crisis 3
- 3400:542 Human Sexuality 3
- 3400:546 Culture, Ethnicity, and the Family 3
- 3400:548 Before and After School Child Care 2
- 3400:560 Organization and Supervision of Child-Care Centers 3
- 3400:586 Parent Education 3
- 3400:600 Family Relationships in the Middle and Later Years 3
- 3400:688 Practicum in Family and Consumer Sciences 3

### 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.

- 3400:694 Master's Project 5
- 3400:699 Master's Thesis 5

### Thesis or Project (select one):

- 3400:694 Master's Project 5
- 3400:699 Master's Thesis 5

**Total for Nonthesis Option 46**

### Child Life Option

### Core Courses:

- 3400:546 Culture, Ethnicity, and Family 3
- 3400:500 Nutrition Communication and Education 4
- 3400:555 Practicum Experience in a Child Life Program 3
- 3400:584 Hospital Settings, Children, and Families 3
- 3400:585 Children, Illness, and Loss 3
- 3400:595 Child Life Internship 5

### Cognate:

- 5600:622 Introduction to Play Therapy 3

Select three credits with approval of advisor within the School of Family and Consumer Sciences OR from a cognate area outside of the School.

- 3400:694 Master's Project 5
- 3400:699 Master's Thesis 5

### Thesis or Project (select one):

- 3400:694 Master's Project 5
- 3400:699 Master's Thesis 5

**Total for Nonthesis Option 46**

### Clothing, Textiles and Interiors Option

### Core Courses:

- 3400:634 Material Culture Studies 3
- 3400:639 Theories of Fashion 3

### Options Electives (select 13 credits with approval of advisor):

- 3400:516 History of Interior Design I 4
- 3400:519 History of Interior Design II 4
- 3400:523 Professional Image Analysis 3
- 3400:525 Advanced Textiles 3
- 3400:537 Global Issues in Textiles and Apparel 3
- 3400:536 Textile Conservation 3
- 3400:537 Historic Costume 3
- 3400:539 History of Fashion 3
- 3400:631 Problems in Design 1-6
- 3400:688 Practicum in Family and Consumer Sciences 3
- 3400:696 Individual Investigation in Family and Consumer Sciences 1-6

### Cognate Electives:

Select 6 credits with approval of advisor 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.

- 3400:694 Master's Project 5
- 3400:699 Master's Thesis 5

**Total 40**

### Food and Consumer Science Option

(admissions temporarily suspended)

### Core Courses:

- 3400:575 Analysis of Food 3
- 3400:576 Developments in Food Science 3
- 3400:520 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 advisor from among the following (if a course has been taken at the undergraduate level, other courses must be selected):

- 3100:500 Food Plants 2
- 3200:540 Special Topics: Economical/World Food Problems 4
- 7400:574 Cultural Dimensions of Food 3
- 3400:585 Seminar in Family and Consumer Sciences (Food Science topic) 2-3
- 3400:570 The Food Industry: Analysis and Field Study 3
- 3400:503 Advanced Food Preparation 3
- 3400:524 Nutrition in the Life Cycle 3
- 3400:624 Advanced Human Nutrition I 3
- 3400:625 Advanced Human Nutrition II 3
- 3400:688 Practicum in Family and Consumer Sciences 3

### Cognate Electives:

Select 5-8 credits with approval of advisor from the School of Family and Consumer Sciences OR from a cognate area outside the School OR from a combination of the two.

- 3400:694 Master's Project 5
- 3400:699 Master's Thesis 5

**Total 40**

**Note:** Students in all of the options who are working on a master’s thesis may elect to take the course 3400:690 Thesis Research/Reading. This course will not, however, count as part of the required 40-42 credits in the program.

### 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.
- Completion of general Graduate Record Examination within the five years preceding application, with the following score:
  - 800 combined on verbal and quantitative with at least a 4.5 on analytical writing;
  - OR
  - 900 combined on verbal and quantitative with at least a 4.0 on analytical writing
- Submit a letter of personal career goals.
- Two letters of recommendation must be submitted.

The graduate faculty of the School of Family and Consumer Sciences may require an interview with any applicant.

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 advisor.
- Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.
- Apply for advancement to candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination, and an approved prospectus for a thesis or project.
• Complete a thesis or 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:
  3100:604 Orientation to Graduate Studies in Family and Consumer Sciences 1
  3100:680 Historical and Conceptual Bases of Family and Consumer Sciences 3
  3100:685 Research Methods in Family and Consumer Sciences 3

• Core Courses:
  3100:624 Advanced Human Nutrition I 3
  3100:625 Advanced Human Nutrition II 3

Electives (9 to 12 credits required)

Select with the approval of advisor 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.

3100:566 Cardiac Physiology 3
3100:584 Pharmacology 3
3100:670 Medical Physiology, Pathophysiology, and Pharmacology 3
3100:696 Research in the Biology of Aging 3
3180:501 Biochemistry Lecture I 3
3180:502 Biochemistry Lecture II 3
3180:500 Nutrition Communication and Education Skills 4
3180:520 Experimental Foods 3
3180:524 Nutrition in the Life Cycle 3
3180:574 Cultural Dimensions of Foods 3
3180:570 Developments in Food Science 3
3180:580 Community Nutrition I – Lecture 3
3180:582 Community Nutrition II – Lecture 3
3180:587 Sports Nutrition 3
3180:588 Practicum in Dietsetics 13
3180:589 Professional Preparation for Dietsetics 1
3180:640 Nutrition in Diminished Health 3
3200:561 Advanced Physiological Concepts in Health Care I 3
3200:562 Advanced Physiological Concepts in Health Care II 3

Cognate Electives (8 to 11 credits required)

Select with the approval of advisor from among the following or other courses that strengthen the student’s goals.

3470:664 Statistics for the Health Sciences 4
3850:678 Social Gerontology 3
6800:651 Techniques of Counseling 3
6500:601 Management and Organizational Behavior 3
6500:602 Computer Techniques for Management 3

Total 40

Note: The M.S. in Nutrition and Dietsetics is not a route to becoming a Registered Dietitian (R.D.). Students interested in becoming R.D.s 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.

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
  7500:556 Advanced Conducting: Choral 2
  7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/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: Music Since 1900 2
  7500:647 Master’s Chamber Recital 1
  7500:699 Master’s Thesis/Project 4-6
  7510:6— 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 advisor.

• Electives – three credits.

To be selected by student and advisor. 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/Project 4-6

• Additional music/education courses – select 23 credits with approval of music education and graduate advisors. Choices may include the following:
  7500:675 Seminar in Music Education 9
  7500:697 Advanced Problems in Music Education 4
  7500:590 Music Workshops 6
  7520:5— Applied Music 8
  7510:6— Ensemble 2
  7500:5— Other music courses 8
  5100:5— Educational Foundations and Leadership 4
  5170:5— General Administration 4
  55—5— Curricular and Instructional Studies 4
  5500:780 Seminar in Curricular and Instructional Studies 1-3

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 advisors. Choices may include the following:
  7500:675 Seminar in Music Education 9
  7500:697 Advanced Problems in Music Education 4
  7500:590 Music Workshops 6
  7520:5— Applied Music 8
  7510:6— Ensemble 2
  7500:5— Other music courses 8
  5100:5— Educational Foundations and Leadership 4
  5170:5— General Administration 4
  55—5— Curricular and Instructional Studies 4
  5500:780 Seminar in Curricular and Instructional Studies 1-3

Music Education Option: Instrumental 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 23 credits with approval of music education and graduate advisors. Choices may include the following:
  7500:675 Seminar in Music Education 9
  7500:697 Advanced Problems in Music Education 4
  7500:590 Music Workshops 6
  7520:5— Applied Music 8
  7510:6— Ensemble 2
  7500:5— Other music courses 8
  5100:5— Educational Foundations and Leadership 4
  5170:5— General Administration 4
  55—5— Curricular and Instructional Studies 4
  5500:780 Seminar in Curricular and Instructional Studies 1-3

Note: The M.S. in Nutrition and Dietsetics is not a route to becoming a Registered Dietitian (R.D.). Students interested in becoming R.D.s should contact the School for proper course selection, some of which can be done at the graduate level.
Music Education Option: General Music Emphasis

**Thesis Option – 32 credits**
- **Required Music Education Core Courses – 15-16 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 23 credits with approval of music education and graduate advisors. Choices may include the following:**
  - 7500:675 Seminar in Music Education* 9
  - 7500:697 Advanced Problems in Music Education* 4
  - 7500:590 Music Workshops* 6
  - 7520:5-6—Applied Music 8
  - 7510:5—Applied Music 8
  - 7500:591 Music Workshops (Ensemble) 6
  - 7500:590 Music Workshops* 6
  - 7520:5—Applied Music 8
  - 7510:5—Applied Music 8
  - 5100:5—General Administration 4
  - 5100:5—Curricular and Instructional Studies 4
  - 5500:780 Seminar in Curricular and Instructional Studies 1-3
- **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 advisors. Choices may include the following:**
  - 7500:675 Seminar in Music Education* 9
  - 7500:697 Advanced Problems in Music Education* 4
  - 7500:590 Music Workshops* 6
  - 7520:5—Applied Music 8
  - 7510:5—Applied Music 8
  - 5100:5—General Administration 4
  - 5100:5—Curricular and Instructional Studies 4
  - 5500:780 Seminar in Curricular and Instructional Studies 1-3

* Topics related to general music.

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 23 credits with approval of music education and graduate advisors. Choices may include the following:**
  - 7500:675 Seminar in Music Education* 9
  - 7500:697 Advanced Problems in Music Education* 4
  - 7500:590 Music Workshops* 6
  - 7520:5—Applied Music 8
  - 7510:5—Applied Music 8
  - 5100:5—General Administration 4
  - 5100:5—Curricular and Instructional Studies 4
  - 5500:780 Seminar in Curricular and Instructional Studies 1-3

* Topics related to general music.

Music Education Option: Choral Conducting

**Thesis Option – 32 credits**
- **Required Music Education Core Courses – 13 credits**
  - 7500:611 Foundations of Music Education 3
  - 7500:612 Practices and Trends in Music Education 3
  - 7500:614 Measurement and Evaluation in Music Education 3
  - **Additional Choral Conducting courses – select 19 credits with approval of music education and graduate advisors.**
  - 7500:675 Seminar in Music Education* 9
  - 7500:697 Advanced Problems in Music Education* 4
  - 7500:590 Music Workshops* 6
  - 7520:5—Applied Music 8
  - 7510:5—Applied Music 8
  - 5100:5—General Administration 4
  - 5100:5—Curricular and Instructional Studies 4
  - 5500:780 Seminar in Curricular and Instructional Studies 1-3

* Topics related to general music.

Music History and Literature Option

- **Music core courses – eight credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:555 Advanced Conducting: Vocal 2
  - 7500:618 Musical Styles and Analysis I (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
  - 7500:621 Music History Survey: Medieval 2
  - 7500:622 Music History Survey: Baroque 2
  - 7500:623 Music History Survey: Classic and Romantic 2
  - 7500:624 Music History Survey: Music Since 1900 2
  - 7500:625 Graduate Bibliography and Research in Music 2
  - 7500:697 Advanced Problems in Music 4
  - 7500:699 Master’s Thesis/Project 4-6
- **Additional music courses – two to four credits.**
  - **Graduate-level (music) workshops, applied music and/or courses to be selected by the student and advisor.**
  - **A minimum reading proficiency in German is required. If a student lacks background in this language, completion of undergraduate courses may be necessary.**
  - **Electives – two to four credits. To be selected by the student and advisor.**

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 the student in career opportunities 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
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II
  - 7500:617 Musical Styles and Analysis III
  - 7500:621 Music History Survey: Middle Ages and Renaissance
  - 7500:622 Music History Survey: Baroque
  - 7500:623 Music History Survey: Classic and Romantic
  - 7500:624 Music History Survey: Music Since 1900

- **Major required courses – 25 credits:**
  - 7500:553 Music Software Survey and Use
  - 7500:613 Instructional Programming in Music for the Microcomputer
  - 7500:618 Musical Styles and Analysis IV (20th century)
  - 7500:627 Computer Studio Design
  - 7500:653 Electronic Music
  - 7500:699 Master's Thesis/Project
  - 7510:6— Ensemble (participation in two ensembles required)**
  - 7520:542 Composition (electronic music)
  - 7500:697 Graduate Research in Communication

- **Electives – 2 credits.** To be selected by the student and advisor.

Degree Total: 33 credits.

Performance Option in Accompanying

- **Music core courses – Eight credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss)
  - 7500:618 Musical Styles and Analysis IV (20th Century)
  - 7500:621 Music History Survey: Middle Ages and Renaissance
  - 7500:622 Music History Survey: Baroque
  - 7500:623 Music History Survey: Classic and Romantic
  - 7500:624 Music History Survey: Music Since 1900

- **Major required courses – 23-26 credits:**
  - 500:562 Repertoire and Pedagogy: Organ
  - 7500:633 Teaching and Literature: Piano and Harpsichord
  - 7500:640 Advanced Accompanying I
  - 7500:641 Advanced Accompanying II
  - 7500:642 Advanced Accompanying III
  - 7500:643 Advanced Accompanying IV
  - 7500:666 Advanced Song Literature
  - 7500:690 Graduate Recital (to be completed in a minimum of two performance periods)
  - 7510:614 Keyboard Ensemble (participation in two ensembles required)**
  - 7510:618 Small Ensemble - Mixed
  - 7520:6— Applied Music (piano, organ and/or harpsichord)

- **Additional music courses – two to three credits.**

- **Elective – two credits.**

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

Degree total: 33-36 credits.

Performance Option in Voice

- **Music core courses: eight credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss)
  - 7500:621 Music History Survey: Middle Ages and Renaissance
  - 7500:622 Music History Survey: Baroque
  - 7500:623 Music History Survey: Classic and Romantic
  - 7500:624 Music History Survey: Music Since 1900

- **Major required courses – 20-22 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century)
  - 7500:665 Vocal Pedagogy
  - 7500:666 Advanced Song Literature
  - 7500:698 Graduate Recital
  - 7510:6— Ensemble (participation in two ensembles required)**
  - 7520:624 Applied Voice

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

- **Electives – four credits.**

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

Degree total: 34-36 credits.

Performance Option in Keyboard

- **Music core courses: eight credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss)
  - 7500:621 Music History Survey: Middle Ages and Renaissance
  - 7500:622 Music History Survey: Baroque
  - 7500:623 Music History Survey: Classic and Romantic
  - 7500:624 Music History Survey: Music Since 1900

- **Major required courses – 18-21 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century)
  - 7510:6— Ensemble (participation in two ensembles required)**
  - 7520:6— Applied Music (piano, organ and/or harpsichord)

- **Additional music courses – three credits.**

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

Degree total: 34-36 credits.

Performance Option in Winds, String Percussion

- **Music core courses: eight credits to be selected:**
  - 7500:555 Advanced Conducting: Instrumental
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:618 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss)
  - 7500:621 Music History Survey: Middle Ages and Renaissance
  - 7500:622 Music History Survey: Baroque
  - 7500:623 Music History Survey: Classic and Romantic
  - 7500:624 Music History Survey: Music Since 1900

- **Major required courses – 16-18 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century)
  - 7510:6— Ensemble (participation in two ensembles required)**
  - 7520:6— Applied Music (select appropriate instrument)

- **Select one of the following as appropriate to major instrument:**
  - 7500:630 Teaching and Literature: Brass Instruments
  - 7500:631 Teaching and Literature: Woodwind Instruments
  - 7500:632 Teaching and Literature: Percussion Instruments
  - 7500:634 Teaching and Literature: String Instruments

- **Graduate Recital**

- **Additional music courses – six credits.*

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

- **Electives – four credits.*

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

Degree total: 34-36 credits.

Note: No more than a total of 16 credits of 7520 courses may be applied to the degree.
Graduate-level (music) courses, advanced problems, workshops and/or applied lessons, to be selected by the student and advisor.

- 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 advisor.

Degree total: 34-36 credits.

Note: No more than a total of 18 credits of 7520 courses may be applied to the degree.

** is recommended that each student’s graduate committee recommend the appropriate electve credits.

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

Performance Option: Choral Conducting

- Music Core Courses (8 credits)
  7500:615 Musical Styles and Analysis I 2
  7500:616 Musical Styles and Analysis II 2
  7500:617 Musical Styles and Analysis III 2
  7500:621 Music History Survey: Middle Ages and Renaissance 2
  7500:622 Music History Survey: Baroque 2
  7500:624 Music History Survey: Music Since 1900 2

- Major Required Courses (24 credits)
  7500:556 Advance Choral Conducting 2
  7500:570 Studies in Choral Literature I (Medieval/Renaissance) 2
  7500:571 Studies in Choral Literature II (Baroque) 2
  7500:572 Studies in Choral Literature III (Classic/Romantic) 2
  7500:573 Studies in Choral Literature IV (Since 1900) 2
  7500:675 Seminar in Music Education: Group Vocal Techniques 2
  7500:697 Advanced Problems in Music (Choral Conducting) 4
  7500:698 Graduate Recital 2
  7510:620-21 Ensemble* 2
  7520:624 Applied Music 4

- Electives (3 credits)
  Areas may include graduate-level courses in other disciplines, with permission of the instructor, or additional music courses other than ensembles.

Total credits: 36

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

Theory Option

- Music core courses – six credits (to be selected):
  7500:553 Bibliography and Research 2
  7500:555 Advanced Conducting: Instrumental 2
  7500:556 Advanced Conducting: Choral 2
  7500:621 Music History Survey: Middle Ages and Renaissance 2
  7500:622 Music History Survey: Baroque 2
  7500:623 Music History Survey: Classical and Romantic 2
  7500:624 Music History Survey: Music Since 1900 2

- Major required courses – 26-28 credits:
  7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  7500:618 Musical Styles and Analysis IV (20th Century) 2
  7500:619 Theory and Pedagogy 2
  7500:697 Advanced Problems in Music 8
  7500:699 Master’s Thesis/Project 4-6
  7510:6— Ensemble Participation in two ensembles required** 2
  7520:642 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 advisor.

- Electives – zero to two credits.

To be selected by student and advisor. Areas 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.

Entrance requirements:

- Meet the general requirements for admission to the Graduate School.
- Possess an undergraduate major in communication, journalism or a related field; or, complete at least 15 semester credits of undergraduate communication coursework approved by the department.

Note: Even though an applicant is eligible for consideration, an offer of admission is not guaranteed.

Program requirements:

- Complete 36 credits, distributed as follows:
  School core courses – 12 credits:
  7600:600 Introduction to Graduate Study in Communication 3
  7600:603 Empirical Research in Communication 3
  7600:624 Survey of Communication Theory 3
  or 7600:625 Theories of Mass Communication 3
  7600:670 Communication Criticism 3
  School coursework – 12 credits.
  Graduate electives – 6 credits.
  Thesis (699) or Project/Production (698) – 6 credits.
  Total – 36 credits.

- Comprehensive examination required for students not pursuing a thesis, project, or production after 24 credits of coursework, including all core courses.
- Advancement to candidacy. Registration for six (6) credits of Thesis (699) or Project/Production (698).
- Presentation and defense of a thesis/project/production:
  The thesis, project, or production requirement is designed to be the culmination of the student’s academic program and involves the conceptualization, design and execution of an academic, practical, or aesthetic problem in a manner which requires a high level of substantive, methodological, technical, and written skills. These skills may be demonstrated in any of the three types of activities, depending on the student’s background and career orientation.

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 or arts administration.

- 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.

Arts Administration Option

- Complete a minimum of 45 credits.
- Required theatre arts courses (30-33) credits:
  7800:600 Research and Writing Techniques 3
  7800:605 Colloquium in the Arts 3
  7800:665 Audience Development 3
  7800:666 Principles of Arts Management 3
  7800:682 Fund Raising and Grantsmanship in the Arts 3
  7800:691 Arts Administration Practices and Policies 3
  7800:692 Legal Aspects of Arts Administration 3
  7800:696 Internship 3-6
  7800:699 Master’s Thesis 6

- Required business courses (9 credits):
  6200:590 Special Topics in Accounting 3
  6500:600 Management and Organizational Behavior 3
  6600:600 Marketing Concepts 3
  or 6800:630 Marketing of Services 3
- Electives in related fields (3-6 credits):
  Options here include course work in business, computer science, urban studies, art, music, law, theatre and dance.
- Complete an oral defense of the thesis.
- General electives

Theatre Option

Complete a minimum of 36 credits distributed as follows:

- School core courses – 24 credits:
  7800:600 Research and Writing Techniques 3
  7800:641 Problems in Directing 3
  7800:645 Seminar in Dramatic Literature 3
  7800:646 Graduate Acting Techniques 3
  7800:658 History of Theatre 3
Society.

ous intellectual base, an opportunity for effective skill development, and an edu-
avanced level professional practice in social work. The program provides a rigor-
ized by the Council on Social Work Education.

in 1995. Distance learning technology, utilizing interactive video and audio systems,
University of Akron and Cleveland State University. The Joint MSW Program began
The Master of Social Work Program is a joint degree program administered by The
Social Work

and Audiology

The School of Speech-Language Pathology and Audiology offers a Master of Arts
degree in Speech-Language Pathology. The program in speech-language pathology
is designed to lead to professional licensure by the State of Ohio Board of Speech-
Language Pathology and Audiology.

Master of Arts degree in Speech-Language
Pathology Program

Admission Requirements - Speech-Language Pathology

• The master’s thesis is optional for students in speech-language pathology. All stu-
dents will successfully complete a course of study with a minimum of 56 cred-
its, two of which may be thesis credits for students electing the thesis option.

Academic requirements within the school for speech-language pathology majors:

7700:540 Augmentative Communication 3
7700:561 Organization and Administration: Public School Speech-Language and
Hearing Programs 2
7700:590 Workshop 1-3
7700:586 Developmental Disabilities 2
7700:611 Research Methods in Communicative Disorders I 3
7700:620 Articulation 2
7700:623 Support Systems for Indiv and Families with Communicative Disorders
2
7700:624 Neuropsychic Speech and Language Disorders 3
7700:626 Voice and Cleft Palate 3
7700:627 Stuttering: Theories and Therapies 2
7700:628 Topics in Differential Diagnosis of Speech and Language Disorders 2
7700:630 Clinical Issues in Child Language 4
7700:631 Acquired Brain Injury 3
7700:632 Dysphagia 3
7700:633 Professional Issues 2
7700:639 Advanced Clinical Testing 4
7700:650 Advanced Clinical Practicum: Speech-Language Pathology (three
registrations) 3
7700:695 Externship: Speech Pathology and Audiology (two registrations) 6 each
7700:696 Externship Seminar 1 each

Completion of 5610:693 Student Teaching in Speech Pathology and 5610:691
Student Teaching Seminar may be substituted for one 7700:696 registration and one
7700:696 SLP Seminar registration.

Students must be registered for clinical practicum, externship, or student teach-
during any academic period in which they are involved in in-house practicum,
externship, or student teaching.

Speech-Language Pathology

and Audiology

The School of Speech-Language Pathology and Audiology offers a Master of Arts
degree in Speech-Language Pathology. The program in speech-language pathology
is designed to lead to professional licensure by the State of Ohio Board of Speech-
Language Pathology and Audiology.

Social Work

The Master of Social Work Program is a joint degree program administered by The
University of Akron and Cleveland State University. The Joint MSW Program began
in 1995. Distance learning technology, utilizing interactive video and audio systems,
links faculty and students at the two institutions. The degree program is accred-
itated by the Council on Social Work Education.

The curriculum of the Joint MSW Program is designed to prepare students for
advanced level professional practice in social work. The program provides a rigor-
ous intellectual base, an opportunity for effective skill development, and an edu-
cational perspective that views human diversity as desirable and enriching to
society.

The Joint MSW Program offers:

• Preparation for the advanced practice of social work
• A degree program accredited by the Council on Social Work Education
• Part-time study
• Evening/weekend courses
• Regional field placements
• Advanced standing program for qualifying students with a BSW

Admission Requirements:
The Joint MSW Program is committed to diversity in the student body. An appli-
cant for admission as a degree candidate in social work (either full-time, part-time,
or advanced standing) must fulfill the general admission requirements of both the
Graduate School and the MSW Program prior to admission. The applicant must
therefore complete application forms for both the Graduate School and the MSW
Program. It is the applicant’s responsibility to make sure that all required applica-
tion materials have been received. Applications for full-time, part-time, and
advanced standing close on February 15. All application materials must be received
by this date. Full-time and part-time admissions are available only for the fall semes-
ter.

The applicant must submit the following to the Graduate School:

• Graduate application form accompanied by an application fee for first-time appli-
cants
• An official transcript from each college or university attended (must include con-
tent in human biology as well as liberal arts coursework)

The following must be submitted to the School of Social Work:

• 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 pro-
  fessional 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, and if/how this situation impacted the desire to pur-
  sue an advanced degree in social work;

• A recent resume which highlights social work or human service experience.

• Three letters of reference/recommendation forms (including one from immedi-
  ate supervisor, if employed).

• A completed Application Checklist.

In addition, applicants to the Joint MSW Program must have:

• Undergraduate degree in social work or a related field.

• Minimum GPA of 3.00 in social and behavioral science courses taken prior to appli-
cation for admission.

• Well-balanced liberal arts curriculum.

• Interview with a member of the faculty may also be required.

Admission to the master’s degree program is on a selective basis and is determined
by the academic preparation and personal qualifications of the applicant. Intellec-
tual maturity, emotional stability, motivation, and the capacity to work with people
are essential qualifications.

Openings for admission are limited, and competition is considerable. Individuals
who have the strongest qualifications in terms of the MSW Program’s admission
criteria are selected for admission. Students admitted to the MSW Program must
register for courses the same calendar year they are accepted. Admission cannot
be deferred until the next year. Students must indicate their intention to enroll by
the deadline indicated in the letter of acceptance.

Applicants should be aware that having a prior felony conviction or prior sanctions
for unprofessional conduct may impact future potential for obtaining licensure as
well as field placements and social work employment.

Students are expected to adhere to the program format under which they were
admitted. Any changes in this initial admission status will be based on the program’s
ability to accommodate the change. Changes must be requested in writing at the
beginning of the previous academic year. The Admissions Committee may require
an in-person interview at its discretion.

Scheduling of courses depends on the availability of rooms equipped with distance
education technology as well as other factors. The days and times courses are
offered may vary from year to year. Students enrolled in either full-time, part-time,
or advanced standing programs must be prepared to be flexible when the schedu-
le of classes changes.

Transfer Students

An applicant who wishes to transfer from another MSW program must follow the
same admission process and meet the same admission requirements as other
degree candidates. A formal written request for transfer must be made at the time

of application for admission. A maximum of 20 graduate credit hours may be transferred from another program accredited by the Council of Social Work. The credits must fall within the six-year time limit for degree completion. A grade of “B” or better is required for transfer credit. The Admissions Committee will determine acceptance of transfer credit. Credit will not be given for work or life experience. Transfer students must submit field work evaluations at the time of application for admission.

**Program Requirements:**
- Complete a minimum of 60 graduate credits of approved courses in social work with an average grade of “B” or better on all classroom courses and satisfactory grades in all field courses. Students must register only for 600-level courses.
- Complete an approved program of courses which include the following required courses:

### Full Time Program

#### First Year Professional Foundation:
- **Fall Semester**
  - 7750:601 Foundation Field Practicum 3
  - 7750:605 Social Work Practice with Small Systems 3
  - 7750:631 Human Behavior and Social Environment: Small Social Systems 3
  - 7750:646 Social Welfare Policy I 3
- **Spring Semester**
  - 7750:602 Foundation Field Practicum 3
  - 7750:606 Social Work Practice with Large Systems 3
  - 7750:647 Social Welfare Policy II 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
  - 7750:611 Dynamics of Racism and Discrimination 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 Direct Practice Research 3
  - Two electives 6

#### Second Year Concentrations (Macro Practice):
- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:611 Dynamics of Racism and Discrimination 3
  - 7750:674 Community, Economic Systems and Social Policy Analysis 3
  - 7750:672 Community Organization and Planning 3
  - One elective 3
- **Spring Semester**
  - 7750:604 Advanced Field Practicum 3
  - 7750:606 Social Work Practice with Large Systems 3
  - 7750:673 Strategies of Community Organization 3
  - 7750:675 Program Evaluation 3
  - 7750:676 Advanced Practice with Small Systems II 3

#### Advanced Standing Program

### Direct Practice Concentration
- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:607 Advanced Practice with Small Systems I 3
  - 7750:631 Human Behavior and Social Environment: Small Social Systems 3
  - 7750:646 Social Welfare Policy I 3
  - One elective 3
- **Spring Semester**
  - 7750:604 Advanced Field Practicum 3
  - 7750:608 Advanced Practice with Small Systems II 3
  - 7750:664 Direct Practice Research 3
  - 7750:665 Program Evaluation 3
  - Two electives 6

### Macro Practice Concentration
- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:611 Dynamics of Racism and Discrimination 3
  - 7750:674 Community, Economic Systems and Social Policy Analysis 3
  - 7750:675 Program Evaluation 3
  - 7750:676 Advanced Field Practicum 3
- **Spring Semester**
  - 7750:671 Social Work Administration 3
  - 7750:672 Community Organization and Planning 3
  - 7750:673 Strategies of Community Organization 3
  - 7750:675 Program Evaluation 3
  - 7750:676 Advanced Field Practicum 3

### Part-Time Program

#### Professional Foundation:
- **Fall Semester (First Year)**
  - 7750:631 HBSE: Small Systems 3
  - 7750:646 Social Welfare Policy I 3
- **Spring Semester (First Year)**
  - 7750:632 HBSE: Large Systems 3
  - 7750:647 Social Welfare Policy II 3

#### Second Semester (Second Year)
- 7750:601 Foundation Field Practicum 3
- 7750:605 Social Work Practice with Small Systems 3
- 7750:631 Human Behavior and Social Environment: Small Social Systems 3
- 7750:646 Social Welfare Policy I 3
- 7750:622 Fundamentals of Research I 3
- 7750:606 Social Work Practice with Small Systems 3
- 7750:601 Foundation Field Practicum 3
- 7750:623 Fundamentals of Research II 3
- 7750:606 Social Work Practice with Large Systems 3
- 7750:602 Foundation Field Practicum 3

#### Concentrations (Direct Practice):
- **Fall Semester (Third Year)**
  - 7750:611 Dynamics of Racism and Discrimination 3
  - 7750:663 Psychopathology and Social Work 3

- **Spring Semester (Third Year)**
  - Two electives 6

### Testing Out Policy

In order to avoid duplication and redundancy of course content during the foundation year, the MSW Program allows students the opportunity to test out of the following courses:

- 7750:631 Human Behavior and Social Environment: Small Social Systems 3
- 7750:646 Social Welfare Policy I 3
- 7750:622 Fundamentals of Research I 3

Students wishing to test out of one or more of the above courses must notify the MSW Program Director at least three weeks prior to the start of the semester in which the course is normally taught. The proficiency exam must be taken prior to classes starting in that semester. There are no fees or penalties associated with taking these exams, however, each exam may be taken only once.

Additional information about the MSW Program may be obtained from the School of Social Work.
College of Nursing

N. Margaret Wineman, R.N., Ph.D., Interim Dean
Kathleen Ross-Alaolmolki, R.N., Ph.D., Assistant Dean, Academic Nursing Programs
Christine A. Wynd, R.N., Ph.D., Director, Joint Ph.D. in Nursing Program
http://www.uakron.edu/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 for certification.
- Prepare scholars in nursing at the doctoral level, focusing on the conduct of nursing research and the dissemination of research findings with their implications for nursing practice and health care policy.
- 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 in caring for diverse populations in a variety of settings.
- Prepare professional practitioners who integrate leadership roles and ethical standards in a continuously changing health care arena and society.

Philosophy
The College of Nursing faculty believe that the foci of professional nursing are individuals, families and communities.

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

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

Environment includes all living and nonliving dimensions with which the individual, family and community have interrelationships. The dynamic environmental interrelations define and establish rules for health and modes of action.

Nursing is an art and a science. The discipline of nursing is concerned with individuals, families 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 social, cultural, and political responsibilities, including accountability for professional actions, provision of quality nursing care, and community involvement.

Education is an individualized, life-long process. Learning includes the individual’s interrelations with the environment, knowledge and skill acquisition, development of critical thinking, and self awareness. Self-expression enables the student to respond to clients who have unique human values and cultural heritage. Each nursing student brings attitudes, beliefs, values, feelings, knowledge and experience into the learning environment. These variables influence learning that occurs through continual construction and reconstruction of experience in relation to environmental influences.

Nursing education at the baccalaureate level synthesizes knowledge from nursing, humanities, social, cultural, physical and natural sciences to operationalize clinical decision-making. The student is prepared to function as nurse generalist in a variety of settings. Faculty and student continually seek to refine the commitment to and understanding of the relationship between theory and practice. Students are encouraged to become self-directed, collaborative, interdependent and independent. These variables are the foundation for life-long learning and professional development.

Nursing education at the master’s level builds upon baccalaureate nursing education and provides a foundation for doctoral study. Graduate education at this level prepares advanced practice nurses with expertise in critical thinking and decision making, effective communication, and therapeutic interventions. Through a variety of learning experiences, master of science in nursing students analyze and use theoretical formulations and research findings in advanced practice.

Nursing education at the doctoral level prepares nurses for full participation in the discipline as scholars and researchers. Emphasis is placed on the development of nurses who are informed about the many dimensions of scholarship, including research, practice and teaching, and the integration of the three. Through various didactic, collaborative and research opportunities, doctoral students learn how to develop and test knowledge about health, illness and nursing care, and how to use this knowledge to enhance teaching, improve patient care, and influence health care policy.

JOINT PROGRAM FOR THE DOCTOR OF PHILOSOPHY IN NURSING
Kent State University and The University of Akron offer the Joint Ph.D. in Nursing (JPDN), a single doctoral program with a single, unified doctoral nursing faculty and doctoral student body. Students may choose which university will grant their degree. The diploma will be issued from the student’s university of record and will recognize the Joint Doctor of Philosophy program. JPDN courses will be cross listed and scheduled at each university.

Program Purpose and Description: Preparation of Scholars in Nursing
The JPDN program is characterized by excellence through scholarship, integrity, and caring. The primary purpose of the JPDN is to produce nurse scholars. This purpose will be realized through: the development and testing of theories and models of nursing science and nursing practice, the consideration of the social, political, legal, and economic implications of health care policies and practices, and the dissemination of knowledge.

Graduates will be characterized by their leadership and their ability to conduct and apply research, to integrate and extend knowledge through teaching, and to develop and implement health care policy. Interdisciplinary collaboration and community outreach will be emphasized throughout the program.

Admission, Progression, and Graduation
Students may apply to the joint program through the Graduate Colleges or the Colleges of Nursing at either Kent State University or The University of Akron. Completed applications should be returned to the addresses indicated on the application forms. Applications will be reviewed by the JPDN admissions committee with a single set of JPDN admission criteria.

Each applicant for admission into the Ph.D. in Nursing Program must meet the following criteria:

- Evidence of successful completion of a master’s degree in nursing at an accredited program with a minimum graduate grade point average of 3.0 on a 4.0 scale.
- Evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Official evidence of scores on the Graduate Record Examination.
- A clear and succinct statement about the applicant’s need for the doctorate and its application toward clearly defined career goals.
- A sample of written work that indicates the logic and writing skills of the applicant, for example, by an essay, term paper, thesis, published article, or professional report.
- Three (3) letters of reference from professionals or professors who can adequately evaluate the applicant and the applicant’s previous work or potential for success.

At the request of the JPDN admission committee, successfully complete a personal interview with a graduate faculty member which will assess research interests and motivation for successful completion of doctoral study in the JPDN program.

Register for courses within two (2) years of acceptance into the JPDN, or otherwise the acceptance is void.

Students wishing to transfer into the Ph.D. in Nursing Program must comply with the university standards for acceptance and are referred elsewhere in this catalog for that information.

International students will be considered for admission. In addition to the above admission criteria, international students must demonstrate a high level of com-
Students will be assigned an academic advisor based on mentoring and mutual research interests. Advisor and student will develop an academic program plan customized to student interests and subject to advisor approval. Target dates for successfully completing the qualifying examination and the completion of the dissertation will be developed early in the program plan. Students may change advisors for academic or dissertation purposes, subject to the approval of the JPDN directors.

For progression and graduation, students must meet the following degree requirements:

- maintain an overall grade point average of 3.0 on a four-point scale (or be liable to dismissal according to University policies);
- adhere to criteria concerning enrollment, residency, and leaves of absence;
- complete degree requirements within 9 years of enrollment;
- complete 42 semester hours of required course work;
- successfully complete the qualifying examination and dissertation requirements;
- successfully complete and orally defend a dissertation based upon original investigation and critical scholarship.

Students who do not meet the criteria for successful progression and graduation will be notified in writing.

Program Description and Curriculum

The JPDN is a post master’s degree, requiring 72 semester credit hours including the dissertation. It consists of five components, with selected customization to student interests. The nursing knowledge component examines knowledge and theory development as well as courses in selected domains of nursing knowledge related to student interest and faculty expertise. Research methods, designs, and statistics examines approaches to both qualitative and quantitative research. Students must select at least one advanced research methods course to promote their research agenda: i.e., program evaluation, advanced qualitative or quantitative methods, or grantmanship. Cognates will be chosen from courses outside nursing which support the student’s research interest. Health care policy courses focus on health care and nursing issues. These four components culminate into the fifth component, the dissertation, which follows the successful completion of the qualifying examination. The course work in each of these five components follows.

Structure and content of nursing knowledge:

<table>
<thead>
<tr>
<th>Five required courses (15 credits)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:810 History and Philosophy of Nursing Science</td>
<td>3</td>
</tr>
<tr>
<td>8200:815 Theory Construction and Development in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>8200:820 Introduction to Nursing Knowledge Domains</td>
<td>3</td>
</tr>
<tr>
<td>8200:840 Nursing Science Seminar I</td>
<td>3</td>
</tr>
<tr>
<td>8200:850 Nursing Science Seminar II</td>
<td>3</td>
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</tbody>
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Research methods, designs, and statistics:

<table>
<thead>
<tr>
<th>Three required methods/design courses (9 credits)</th>
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</thead>
<tbody>
<tr>
<td>8200:825 Quantitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>8200:830 Qualitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>8200:845 Advanced Methods for Research</td>
<td>3</td>
</tr>
<tr>
<td>(1 advanced nursing research methods course selected with the approval of the student’s academic advisor)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Two required statistics courses (6 credits)</th>
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</thead>
<tbody>
<tr>
<td>8200:827 Advanced Health Care Statistics I</td>
<td>3</td>
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<tr>
<td>8200:828 Advanced Health Care Statistics II</td>
<td>3</td>
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Cognates:

<table>
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<tr>
<th>Three required courses (9 credits)</th>
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<tbody>
<tr>
<td>Cognates</td>
<td>9</td>
</tr>
<tr>
<td>(Three courses are selected with the approval of the student’s academic advisor from a discipline outside of nursing to support the student’s research interest.)</td>
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Electives:

<table>
<thead>
<tr>
<th>8200:892 Field Experience in Nursing</th>
<th>1-12</th>
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</thead>
<tbody>
<tr>
<td>8200:895 Special Topics in Nursing</td>
<td>1-6</td>
</tr>
<tr>
<td>8200:896 Individual Investigation in Nursing</td>
<td>1-3</td>
</tr>
<tr>
<td>8200:898 Research in Nursing</td>
<td>1-15</td>
</tr>
</tbody>
</table>

Health Care and nursing policy:

<table>
<thead>
<tr>
<th>One required course (3 credits)</th>
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</thead>
<tbody>
<tr>
<td>8200:835 Nursing and Health Care Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

Doctoral dissertation

- 30 credit hours required
- 8200:899 Doctoral Dissertation

Students who need more than 30 credit hours to complete the dissertation will enroll in 8200:800 Doctoral Dissertation II.

Qualifying for Candidacy for the Doctoral Dissertation

- All students in the JPDN Program are required to successfully complete a qualifying examination before proceeding to conduct dissertation research. To be eligible for candidacy for the dissertation, students must have completed 42 hours of required courses, have maintained a minimum GPA of 3.0 on a 4.0 scale in the doctoral program, have successfully completed the qualifying examination, and have been approved by the appropriate administrative bodies of the program.
- Dissertation Prospectus. The dissertation prospectus is a written document that includes an outline of the parameters of the projected dissertation topic with a rationale and statement of the problem to be researched, the methodology and design of the study, a preliminary review of the literature substantiating the need for the study, and the principle sources of information for the dissertation. Approval of the prospectus permits the student to proceed with the dissertation.
- Dissertation. The dissertation is based upon original investigation and demonstration of mature scholarship and critical judgment in the theoretical and methodological approaches to development of nursing knowledge. The dissertation is expected to be the first step in the development of a program of research and scholarly activity. A minimum of 30 dissertation credit hours are required.
- Oral defense. When the dissertation is completed a meeting will be scheduled for the student’s defense of the dissertation. The candidate is expected to respond to substantive and methodological questions related to the dissertation.
- Dissertation committee. A four person doctoral dissertation committee will guide and approve the acceptability of the dissertation. The Chair must be a member of the JPDN faculty, as must be two committee members. The remaining members must be selected from outside the program. Other qualifications of members will be consistent with the student’s area of research and with the requirements for doctoral committees as stated in the policies and general catalogs of both universities.

Innovative Curriculum Pathways to the Joint Ph.D. in Nursing Program for BSN Graduates and for Students Enrolled in MSN Option

The Innovative Pathways into the Joint Ph.D. in Nursing Program (JPDN) is an accelerated program that allows individuals with a BSN and students enrolled in the RN-MSN program direct admission into the JPDN program. Acceleration is accomplished by restructuring MSN and Ph.D. curricula to recognize the mastery of specific content, thereby facilitating graduate study. There are two pathways: one for BSN graduates and one for RN-option students. Since existing acceleration pathways differ at The University of Akron and Kent State University, individuals applying for admission to this program must apply for admission through the Graduate School of The University of Akron.

BSN Graduates:

BSN students within one semester of graduation and professional nurses with a BSN degree may apply in December prior to the fall in which admission is desired. Admission criteria include:

- Enrollment in an accredited BSN program within one semester of graduation or hold the BSN degree.
- Provide evidence of successful completion (or the potential to complete the BSN by the following fall semester) of a baccalaureate degree program in nursing at an accredited school with a minimum grade point average of 3.0 on a 4.0 scale.
- Provide evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Provide evidence of acceptable scores on the Graduate Record Examination.
- Submit a statement about nursing career interests and goals.
- Provide a sample of written work. This may include, for example, a scientific term paper, a research paper, an honor’s project, or a published article.
- Submit three (3) letters of recommendation from professors or other professionals who can adequately evaluate previous work and potential for success in the Ph.D. program. One of the three letters must be from a Doctoral Faculty Council member who has worked closely with the student.
- Satisfactorily complete a personal interview with a Doctoral Faculty Council member.
- Register for full-time study during the fall semester after acceptance into the Ph.D. program, or otherwise the acceptance is void.
- Enroll in full-time study for four calendar years for students who are entering directly from the BSN program or full-time study for two academic years plus two calendar years for post-MSN applicants.

Students receive a maximum of 12 credit hours of by-passed credit for master’s level courses after successfully completing 12 credit hours of doctoral level courses. Bypass credit is given in accordance with applicable University of Akron policy.
Upon successful completion of 8200:615, 8200:625, 8200:630, and 8200:635, students receive a maximum of 12 hours of by-passed credit for master’s level courses.

Internship: Students entering directly from the BSN program will be required to complete two 10-week internships with the Co-op program (paid positions).

- Internship in generalist practice during Summer Session I
- Internship in advanced nursing practice during Summer Session II

MSN-Option Students: Currently enrolled RN-option students at The University of Akron may apply for admission following completion of the RN-option bridge courses. Admission criteria include:

- Enrollment in The University of Akron RN-option program.
- Minimum grade point average of 3.0 on a 4.0 scale for all previous coursework.
- Provide evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Provide evidence of current malpractice insurance.
- Provide evidence of acceptable scores on the Graduate Record Examination.
- Submit a statement about nursing career interest and goals.
- Give a sample of written work. This may include, for example, a scientific term paper, a research paper, an honor's project, a professional report, or a published article.
- Submit three (3) letters of recommendation from professors or other professionals who can adequately evaluate previous work and potential for success in the Ph.D. program. One of the three letters must be from a Doctoral Faculty Council member who has worked closely with the student.
- Satisfactorily complete a personal interview with a Doctoral Faculty Council member.
- Register for full-time study during the fall semester after acceptance into the Ph.D. program, or otherwise the acceptance is void.

Students enrolled in The University of Akron RN-Option receive a maximum of six (6) by-passed credits after successfully completing six credit hours of doctoral level courses. By-passed credit is given for Nursing Inquiry I (8200:613) and Nursing Inquiry II (8200:618) after the student successfully completes Quantitative Research Methods (8200:625) and Qualitative Research Methods (8200:830) in accordance with applicable University of Akron policy. Students admitted to this innovative pathway are required to take the RN-BSN research course 8200:436, rather than receive by-passed credits for it.

MASTER OF SCIENCE IN NURSING
http://www3.uakron.edu/nursing/Academic/masters.htm

Accreditation
The master's degree programs are fully accredited by the Commission on Collegiate Nursing Education (CCNE). CCNE is a resource of information regarding tuition, fees, and length of program and can be contacted at: One Dupont Circle, N.W., Suite 530, Washington, D.C., 20036, (202) 887-6791.

Expected Outcomes of the Program
- Applies scientific theories and research to implement the advanced nursing role
- Demonstrates competence according to national standards and guidelines in the advanced nursing role
- Demonstrates knowledge of legal, ethical, fiscal, policy, and leadership issues that impact the delivery of health care in the advanced nursing role
- Demonstrates knowledge of legal, ethical, fiscal, policy, and leadership issues that impact the advancement of the nursing profession in the advanced nursing role
- Identifies researchable nursing problems and contributes to research studies for advanced nursing and health care practice

Admission
- Baccalaureate degree in nursing from an NLNAC or CCNE accredited nursing program.**
- 3.00 GPA on a 4.00 scale for all previous college work.
- GRE (preferred) or Miller Analogies Test taken within the last five years for the Nurse Anesthesia track.
- GRE required for students with a GPA of 2.99 and below.
- 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 should access the online graduate application through the Graduate School webpage or the webpage of the College of Nursing. Criteria specific for admission to the Graduate Nursing Program may be secured from the Coordinator 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 Coordinator of the Graduate Program regarding the applicant's status. The Coordinator will send a 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 admission process.

**National League for Nursing Accreditation Commission.
**A baccalaureate degree in nursing from a foreign university which is recognized by The University of Akron.

Preliminary approval from Commission on Collegiate Nursing Education.

Instructional Program
The Master of Science in Nursing curriculum includes a minimum of 36 credit hours of study depending on the specialty track. The advanced practice tracks include Adult/Gerontological Health Nursing, Behavioral Health Nursing, Child and Adolescent Health Nursing, and Nurse Anesthesia. Graduates are prepared for advanced practice as clinical nurse specialists, nurse practitioners, or nurse anesthetists, or as roles as administrators or educators. The curriculum is based on theory and research both in nursing and in related disciplines. It provides the foundation for doctoral study and for ongoing professional development.

Nursing Core
The curriculum consists of a core of 17 credit hours. These courses encompass advanced theory, research, computers in nursing, health policy, and pathophysiological concepts.

Nursing Research
All students enroll in a research core for a total of 6-7 credits: 8200:613, Nursing Inquiry I and 8200:699 Master’s Thesis or 8200:618 Nursing Inquiry II.

RN Sequence
(This sequence is limited to registered nurse graduates of Associate Degree and Diploma nursing programs)

The RN program is designed for registered nurses who hold a diploma or associate degree in nursing or a baccalaureate degree in another field. It is specifically designed for RN's who are interested in obtaining the baccalaureate degree in nursing and/or continuing on to a master’s degree in nursing. Students must complete 68-69 hours of prerequisite undergraduate coursework prior to acceptance into the sequence. The RN program consists of 32 credit hours of upper-division baccalaureate coursework. Students wishing to begin work on the Master’s degree RN/MSN option may do so while meeting the baccalaureate requirements and must apply to the graduate program in the fall or early spring prior to graduation. Additional admission requirements and a graduate research class (Inquiry I) are part of the RN/MSN option. Continuation in the graduate program is predicated on meeting graduate program requirements and acceptance into the graduate nursing program.

Advanced Practice Options
Options are provided for advanced practice as a clinical nurse specialist, nurse practitioner, or nurse anesthetist, or for advanced roles as an administrator. Requirements for admission include at least one year of practice in the area of interest. The Master of Science in Nursing curriculum requires from 36 to 60 credits, depending on the Advanced Practice option selected by the student.

Core courses required of all students:
8200:608 Pathophysiological Concepts of Nursing Care 3
8200:633 Theoretical Basis for Nursing 3
8200:606 Information Management in Advanced Nursing Practice 3
8200:607 Policy Issues in Nursing 2
8200:613 Nursing Inquiry I 3
8200:618 Nursing Inquiry II 3
8200:699 Master’s Thesis 16

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

RN Sequence
• Nurse Anesthesia
The Anesthesia Track (60 credit hours) is accredited by the Council on Accreditation of Nurse Anesthesia Programs. The Nurse Anesthesia track meets certification requirements through the American Association of Nurse Anesthetists’ Council on Certification of Nurse Anesthetists (CCNA).
8200:611 Advanced Physiological Concepts in Health Care I 3
8200:612 Advanced Physiological Concepts in Health Care II 3
8200:637 Nurse Anesthesia Residency I 4
8200:640 Scientific Components of Nurse Anesthesia 3
8200:641 Pharmacology for Nurse Anesthesia I 3
8200:642 Introduction to Nurse Anesthesia 2
8200:643 Principles of Anesthesia I 4
8200:644 Pharmacology for Nurse Anesthesia II 3
8200:645 Principles of Anesthesia II 4
8200:646 Nurse Anesthesia Residency II 4
8200:647 Professional Role Seminar 2
8200:648 Nurse Anesthesia Residency III 4
8200:649 Nurse Anesthesia Residency IV 4
• 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 2
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
• Child and Adolescent Health Nurse Practitioner
The Child and Adolescent Health Nurse Practitioner track (45 credits) meets certification requirements through ANCC or PCBPNNP.
7400:585 Nutrition for Pediatric Nurse Practitioners 2
8200:650 Pediatric/Adolescent Assessment 3
8200:651 Child and Adolescent Health Nursing I 3
8200:652 Child and Adolescent Health Nursing I Practicum 2
8200:653 Child and Adolescent Health Nursing II Practicum 2
8200:654 Child and Adolescent Health Nursing III Practicum 2
8200:655 Child and Adolescent Health Nursing IV 3
8200:656 Pharmacology for Child and Adolescent Health Nursing 3
8200:657 Child and Adolescent Health Nursing III 3
8200:658 Child and Adolescent Health NP Internship elective only/ Practicum: Child and Adolescent Health Nursing 1-4
8200:659 Professional Role Seminar 2
• Behavioral Health Nursing
Behavioral Health Nursing Track (49 credit hours and meets eligibility requirements for certification through American Nurses Credentialing Center (ANCC) as psychiatric clinical nurse specialist or psychiatric nurse practitioner).
5600:720 Topical Seminar: Guidance and Counseling (DSM IV) 3
8200:610 Advanced Adult/Gerontological Assessment with Practicum 3
8200:612 Advanced Clinical Pharmacology 3
8200:660 Behavioral Health Nursing I Practicum 2
8200:661 Behavioral Health Nursing I 3
8200:662 Clinical Psychopharmacology 3
8200:663 Behavioral Health Nursing Internship (elective only) 1-4
8200:664 Behavioral Health Nursing II Practicum 2
8200:665 Behavioral Health Nursing II 3
8200:666 Behavioral Health Nursing III Practicum 2
8200:667 Behavioral Health Nursing III 3
8200:668 Behavioral Health Nursing III Practicum 2
8200:669 Practicum: Behavioral Health Nursing 5
• Adult Gerontological Health Nursing Clinical Nurse Specialist Track (39 credits)
Meets eligibility requirements for certification through American Nurses Credentialing Center (ANCC) or Clinical Nurse Specialist in selected areas.
8200:610 Advanced Adult/Gerontological Assessment with Practicum 3
8200:612 Advanced Clinical Pharmacology 3
8200:671 Adult/Gerontological Health Nursing CNS I 2
8200:672 Adult/Gerontological Health Nursing CNS I Practicum 2
8200:675 Adult/Gerontological Health Nursing CNS II 2
8200:676 Adult/Gerontological Health Nursing CNS II Practicum 2
8200:677 Adult/Gerontological Health Nursing CNS III 2
8200:678 Adult/Gerontological Health Nursing CNS III Practicum 2
8200:679 Practicum: Adult/Gerontological Health Nursing CNS 4
• Adult Gerontological Health Nurse Practitioner Track (47 credits and meets eligibility requirements for certification through American Nurses Credentialing Center (ANCC) and American Academy of Nurse Practitioners (AANP).
8200:610 Advanced Adult/Gerontological Assessment with Practicum 3
8200:612 Advanced Clinical Pharmacology 3
8200:620 Adult/Gerontological Health Nursing NP I 2
8200:621 Adult/Gerontological Health Nursing NP II 2
8200:622 Adult/Gerontological Health Nursing NP III 2
8200:623 Adult/Gerontological Health Practicum II 2
8200:627 Adult/Gerontological Health Nursing NP I Practicum 2
8200:628 Adult/Gerontological Health Nursing NP II Practicum 2
8200:629 Adult/Gerontological Health Nursing NP III Practicum 2
8200:630 Clinical Management I 3
8200:639 Practicum: Adult/Gerontological Health Nursing CNS 4
8200:630 Resource Management in Nursing Settings 3
8200:632 Fiscal Management in Nursing 3
8200:633 Nursing Leadership in Organizations I 3
8200:634 Nursing Leadership in Organizations II 3
8200:635 Organizational Behavior in Nursing Settings 3
8200:638 Practicum Nursing Administration I 2
8200:639 Practicum Nursing Administration II 2
• Advanced Role Option
8200:681 (36 credits)
8200:682 Administration (36 credits)
8200:683 Resource Management in Nursing Settings 3
8200:684 Fiscal Management in Nursing Administration 3
8200:685 Nursing Leadership in Organizations I 3
8200:686 Nursing Leadership in Organizations II 3
8200:687 Organizational Behavior in Nursing Settings 3
8200:688 Practicum Nursing Administration III 2
8200:689 Practicum Nursing Administration IV 2
1*Cognate electives may be substituted for 8200:688 in the Administration option

Graduate Degree Completion Program for the Certified Registered Nurse Anesthetist
The Graduate Degree Completion Program for Certified Registered Nurse Anesthetist (CRNAs) is designed to give practicing CRNAs the opportunity to complete additional course work that integrates their current clinical expertise within the framework of advanced practice nursing at the master’s level. This program allows CRNAs to advance their current status to be congruent with the master’s level education mandated for all current nurse anesthesia educational programs.

Admission Requirements:
• Evidence of successful completion of an accredited program of nurse anesthesia
• Evidence of successful completion of an accredited BSN program
• Current certification/recertification as a CRNA
• Current employment as a CRNA
• Three professional recommendations
• Satisfactory completion of a graduate-level statistics course

Curriculum
• Professionalism Core:
8200:603 Professional Basis 3
8200:607 Policy Issues in Nursing 2
• Inquiry Core:
3470:689 Statistics 3
8200:606 Information Management in Advanced Nursing Practice 3
8200:613 Inquiry I 3
8200:618 Inquiry II 3
• Additional Courses:
8200:612 Advanced Clinical Pharmacology 3
8200:632 Fiscal Management in Nursing 3
8200:630 Resource Management in Nursing 3
8200:635 Organizational Behaviors in Nursing 3
8200:xxx Elective 3
Portfolio 7
Total 36

MASTER OF PUBLIC HEALTH
The Consortium of Eastern Ohio Master of Public Health program is a multidisciplinary, interdepartmental, and inter-institutional organization that provides opportunities for graduate studies in public health. As a consortium-based program, the Master in Public Health degree is awarded by The University of Akron and utilizes faculty at the University of Akron, Cleveland State University, Kent State University, Northern Ohio Universities College of Medicine, and Youngstown State University. This program focuses on enabling public health and health care practitioners to better serve the community.

Students take core courses as a cohort at distance learning sites on participating campuses using interactive videoconferencing. Core courses are scheduled on Saturdays from 9:00 a.m. to 4:00 p.m. (including an hour for lunch). Electives are taken on the campus where they are being offered and may be taken at any time during the program.

Mission Statement
The mission of the Consortium of Eastern Ohio Master of Public Health program is to preserve and enhance the health and well-being of the community by providing an educational program that fosters collaboration among the participating academic institutions, students, public health practitioners, and the public health system, and that prepares graduates in the knowledge, skills, and analytic capabilities required to improve the health of diverse populations at the local, state, and national levels via community practice, research, and service.
Goals

- Provide an MPH program that fosters diversity through collaboration among academicians, researchers, public health practitioners, and students from each member institution and the Northeast Ohio community.
- Provide graduates with a foundation of public health skills and knowledge, including community assessment methods, research strategies, program implementation, evaluation, and policy development.
- Provide students with opportunities to apply public health concepts and skills to assess and improve the health status of residents of Ohio.
- Foster ongoing professional development of faculty and students, and the advancement of public health practice in the community through the development and implementation of continuing education programs.
- Conduct at least an annual evaluation of program activity to assure that it continues to meet the needs of both students and the Ohio community, and is based on the most current concepts and skills in public health research and practice.

Admission

Applications are sent to Northeastern Ohio Universities Master of Public Health, Division of Community Health Sciences, Northeastern Ohio Universities College of Medicine, 4209 State Route, PO. Box 95, Rootstown, Ohio 44272.

Students must meet the following admission requirements:

- Submit completed application by the required date
- Possess a bachelor’s degree from an accredited college or university
- Provide official transcripts from each institution of higher education attended
- A minimum undergraduate GPA of 2.75
- Three letters of recommendation from individuals familiar with applicant’s academic or professional background, submitted to: NEOUMPH Admissions Committee, Division of Community Health Sciences, NEOUCOM, 4209 State Route, PO. Box 95, Rootstown, Ohio 44272-0095. Letters should include assessments of the applicant’s work quality and estimation of her/his ability to succeed in the program.
- Successful completion of a college-level mathematics or statistics course and a college-level social or natural science course
- Acceptable GRE taken within the last five years (may be waived if applicant has a professional degree (master’s or doctoral) in a relevant area)
- International candidates for whom English was not the language of instruction
- Acceptable GRE taken within the last five years (may be waived if applicant has a professional degree (master’s or doctoral) in a relevant area)
- A college-level social or natural science course taken within the last five years
- Two years of work experience in a relevant field is highly recommended
- Cover letter (maximum two pages) explaining candidate’s educational and professional background, submitted to: NEOUMPH Admissions Committee, Division of Community Health Sciences, NEOUCOM, 4209 State Route, PO. Box 95, Rootstown, Ohio 44272-0095. Letters should include assessments of the applicant’s work quality and estimation of her/his ability to succeed in the program.
- $35 non-refundable application fee

Admitted students are assigned to an “enrollment university” based on preference. Questions may be directed in writing to the above address or applicants may contact the Program Director by telephone (330) 325-6179, fax (330) 325-5907, or e-mail at pubh@neoucom.edu. The Program Co-Director on the University campus may be reached at (330) 972-8299.

Curriculum

The MPH program contains five core areas basic to public health: biostatistics, epidemiology, environmental health sciences, health services administration, and social and behavioral sciences.

- **Core courses:**
  - Prerequisite for all core courses is admission to the MPH Program.
  - 39 Total

  - 8300:601 Public Health Concepts 3
  - 8300:602 Social and Behavioral Sciences in Public Health 3
  - 8300:603 Epidemiology in Public Health 3
  - 8300:604 Biostatistics in Public Health 3
  - 8300:605 Health Services Administration in Public Health 3
  - 8300:606 Environmental Health Sciences in Public Health 3

- **Capstone Project:** 6

A “grant” project, capstone project, portfolio, and exit presentation is required of each student.

### College of Polymer Science and Polymer Engineering

**Frank N. Kelley, Ph.D., Dean**
**Ernst D. von Meerwall, Ph.D., Associate Dean**

### HISTORY

The University of Akron has been a focus for education and research in polymer science since 1910 when Professor Charles M. Knight began offering courses in rubber chemistry. Master’s theses treating rubber chemistry on the University library shelves date to 1920. The University began developing major laboratories in 1942 under the leadership of Professor S.W. Whitby, 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 Rubbers and Plastics 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 1983 and a Department of Polymer Engineering in the College of Engineering in January 1984 with Professor James L. White as director and department chair to give thrust to polymer processing and engineering applications.

In 1988 the College of Polymer Science and Polymer Engineering was established to consolidate the administration of the two academic departments, the Institute of Polymer Science and the renamed Institute of Polymer Engineering.

### MISSION STATEMENT

The mission of the College of Polymer Science and Polymer Engineering is to serve its students through a high quality educational experience, incorporating both classroom and laboratory learning, as well as a stimulating research environment. Its graduates and former research associates provide a well-trained workforce for employers throughout the world, but especially for the State of Ohio. With the generation of new knowledge from research and the application of that knowledge, the College serves society with benefits to both the economy and the environment.

- The primary purpose of the College is to educate its students in the science and engineering of polymers.
- The College is involved principally in graduate level education (M.S. and Ph.D.), its students are taught the skills of research by the faculty; occasionally assisted by visiting scientists, and post-doctoral associates.
- The involvement of the College faculty, students and associated staff in research provides a further purpose, i.e., to develop new knowledge concerning polymeric materials and processes, and to disseminate that knowledge to the broader community of researchers, technologists, and manufacturers who employ that knowledge to their own 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

Graduate Studies 73
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 committees carefully consider each applicant. Early application is suggested.

DEPARTMENT OF POLYMER SCIENCE
Students with an undergraduate degree in chemistry, physics, or engineering and a grade point average of 2.75/4.0 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 required remedial courses.

A student with a M.S. in Mechanical or Chemical Engineering from another university can be admitted to the Ph.D. program. Two letters of recommendation are required in such cases to be certain that the student is likely to be successful in doctoral research.

DOCTOR OF PHILOSOPHY
Students may pursue the Doctor of Philosophy degree in either Polymer Science or Polymer Engineering.

Doctor of Philosophy in Polymer Science
An interdisciplinary program leading to the Doctor of Philosophy in Polymer Science is administered by the Department of Polymer Science. Graduates from the three main disciplines (chemistry, physics and engineering) are guided into the appropriate 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 chair and dean.

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

- Complete a course of study prescribed by the student’s advisory committee based on the committee’s judgment of the student’s background and on the 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 94 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.

- 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
    - 9871:706 Ionic and Nemer Insertion Reactions
  - 4 credits of polymer physical chemistry courses:
    - 9871:674 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 9871:6078 Polymer 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/departamental 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 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 chair and dean.

Students in Polymer Engineering will earn the degree of Doctor of Philosophy in Polymer Engineering. Requirements in the interdisciplinary field of Polymer Engineering for that degree are as follows:

- Take a Basic Engineering exam after the first Fall semester of study. The exam will cover heat transfer, fluid mechanics and solid mechanics, as determined by the department. If a student fails the examination or a portion of the examination, he/she may be asked to take remedial undergraduate courses or graduate level courses at his/her own expense within one year from the date of the exam. NOTE: Any student who successfully completes course 9841:650, Introduction to Polymer Engineering, with a "B" or better grade is deemed to have satisfied the requirement of the Basic Engineering exam and does not have to take the exam. Students who achieve a "B−" or lower in the course would still be required to take the exam.
- 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 advisor and the Department Chair.
- Complete courses as developed in the plan of study. A minimum of 96 credits of graduate work must be earned. A total of 36 credit hours of lecture courses and 60 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 36 lecture course credit requirement.
- A student entering with a master’s degree or graduate credits from another institution may be given 18 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 his/her research proposal for approval by the advisory committee and take 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.
- Submit the written Doctoral Dissertation to the Graduate School by the required deadlines.
- Fulfill a second language requirement.
- Polymer engineering core (12 credits):
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 credits in the following required core courses in polymer science: 9871:650 Polymer Concepts; 9871:656 Polymer Science Laboratory; 9871:674 Polymer Structure and Characterization; 701 Polymer Technology.
- 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 theses credits must be completed at the University.

Master of Science in Polymer Engineering

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 30 credits: 12 credits of core courses, 6 credits of 600-level polymer engineering electives, 6 credits of technical electives, and 6 credits of Master’s Thesis.

- Polymer engineering core:
  9841:611 Structural Characterization of Polymers with Electromagnetic Radiation 2
  9841:621 Rheology of Polymeric Fluids 3
  9841:622 Analysis and Design of Polymer Processing Operations I 3
  9841:631 Engineering Properties of Solid Polymers 2
  9841:641Polymer Materials Engineering Science 2

- Polymer engineering elective:
  9841:691 Polymer Engineering Seminar 1
  9841:623 Analysis and Design of Polymer Processing Operations II 3
  9841:642 Engineering Aspects of Polymer Colloids 2
  9841:650Basic Engineering for Polymer Engineers 3
  9841:651 Polymer Engineering Laboratory 3
  9841:661 Polymerization Reactor Engineering 3
  9841:670 Polymer Nanocomposites 3
  9841:675 Carbon-Polymer Nanotechnology 3
  9841:680 Polymer Coatings 3

The Committee recommends 9841:651 to be compulsory for all full-time M.S. students, but it may be exempted as an elective for part-time students who are currently employed in polymer and related industries.

- Mathematics electives
  3450: Approved Mathematics 3

- Technical electives:
  3450: Approved Mathematics 3
  4300:681 Advanced Engineering Materials 3
  4600:622 Continuum Mechanics 3
  9871:613 Polymer Science Laboratory 3
  9871:674 Polymer Structure and Characterization 2
  9871:675 Polymer Thermodynamics 3
  9841:xxx

- Polymer Engineering (700-level) electives:
  9841:7xx Electives 10

A minimum of 36 credits of coursework is required for the Ph.D. in Polymer Engineering.

- Research (60 credits):
  Students may take a combination of 9841:898 (Preliminary Research) and 9841:899 (Doctoral Dissertation) to meet this requirement, however, a minimum of 12 credits of the total 60 required must be of 9841:899.

- Foreign Language Requirement:
  Additionally, a foreign language or research technique (i.e., computer skills/statistics) is required for the Ph.D. degree in Polymer Engineering, using either Plan A, B, or C (see section under “Language Requirements” as described in this publication).

MASTER’S DEGREE

Students may pursue Master of Science degrees in either Polymer Science or Polymer Engineering.

Graduate Studies
Interdisciplinary and Certificate Programs of Study

Overview
To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a major, the student may elect to pursue one of these programs. Interdisciplinary Studies programs feature courses which integrate and analyze issues and concepts from more than one field. The goal of this type of study is to place knowledge into greater perspective than would be possible through any one traditional field. This is accomplished by taking courses from a variety of departments as well as courses which may be taught together. Upon completion of any of these programs, a statement will be placed on the student’s permanent record indicating the area of concentration. The certificate indicating the area of concentration will be awarded when the student completes requirements for a degree unless the program specifies that it is free-standing and does not require participation in a degree program.

ADDITIONAL DIPLOMA PROGRAMS

Interdisciplinary Programs

Interdisciplinary Studies programs feature courses which integrate and analyze issues and concepts from more than one field. The goal of this type of study is to place knowledge into greater perspective than would be possible through any one traditional field. This is accomplished by taking courses from a variety of departments as well as courses which may be taught together. Upon completion of any of these programs, a statement will be placed on the student’s permanent record indicating the area of concentration. The certificate indicating the area of concentration will be awarded when the student completes requirements for a degree unless the program specifies that it is free-standing and does not require participation in a degree program.

ACUTE CARE NURSE PRACTITIONER – POST-MASTER’S

The Post-Master’s Acute Care Nurse Practitioner certificate program prepares acute care nurse practitioners to provide advanced practice nursing care to acutely and/or critically ill adults. The program requires one calendar year of intense 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 16 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 3.0 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 II</td>
<td>3</td>
</tr>
<tr>
<td>8200:693</td>
<td>Acute Care Nurse Practitioner II</td>
<td>4</td>
</tr>
<tr>
<td>8200:694</td>
<td>Acute Care Nurse Practitioner III</td>
<td>4</td>
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<tr>
<td>8200:696</td>
<td>Clinical Reasoning</td>
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<tr>
<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

ADDITIONAL DIPLOMA PROGRAMS

ADDITIONAL DIPLOMA PROGRAMS

ADMISSION COUNSELING

Robert C. Schwartz, Ph.D., Coordinator
(Admissions temporarily suspended.)

The Addiction Counseling certificate program prepares master’s-level practitioners to assess, diagnose, and treat persons with addictive disorders using various counseling strategies. Trainees will complete coursework related to theory, assessment, treatment planning, and treatment of addicted clientele. Trainees will then gain supervised clinical experience specifically related to counseling clients with addictive disorders. Licenses mental health practitioners may list addiction counseling under their identified scope of practice after completion of this certificate program.

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 counsel-

ing 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.
- Make written application to the program to the Counselor Education Admissions Committee in the Department of Counseling and Special Education.
- Receive written notification for admission from the Counselor Education Admissions Committee.
- Consult with the Counselor Education Internship Coordinator to plan for an internship in an appropriate addictions counseling setting.

Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:732</td>
<td>Addiction Counseling I: Theory and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>5600:734</td>
<td>Addiction Counseling II: Treatment Planning and Intervention Strategies</td>
<td>3</td>
</tr>
<tr>
<td>5600:685</td>
<td>Internship in Counseling</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total credit hours</strong></td>
<td><strong>12</strong></td>
<td></td>
</tr>
</tbody>
</table>

ADULT/GERONTOLOGICAL NURSE PRACTITIONER – POST-MSN

The Post-MSN certificate program is designed to prepare Adult/Gerontological Clinical Nurse Specialists who are seeking preparation in the role of nurse practitioner as providers of primary health care to adults and older adults. Upon completion of the 18 credit program, the student is eligible to sit for Nurse Practitioner certification examination.

Admission Criteria

Ohio RN licensure.

Hold an MSN degree from a professionally accredited nursing program (clinical master’s preferred).

Have a minimum GPA of 3.0 on a 4.0 scale for MSN program.

Minimum of 2-3 years recent clinical experience in adult or gerontological health care.

Complete an application to The University of Akron Graduate School.

Submit a 300 word essay describing professional goals.

Submit a resume outlining prior education and work related experiences.

Complete the following prerequisite courses: graduate level pathophysiology, advanced assessment, advanced clinical pharmacology.

Completion of an interview with the Adult/Gerontological Health Nursing faculty.

Program of Study

Students must complete a minimum of 500 clinical hours for eligibility to sit for certification.

Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>8200:627</td>
<td>Adult/Gerontological Health Nursing NP I Practicum</td>
<td>2</td>
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<tr>
<td>8200:628</td>
<td>Adult/Gerontological Health Nursing NP II Practicum</td>
<td>2</td>
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<tr>
<td>8200:629</td>
<td>Adult/Gerontological Health Nursing NP III Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:630</td>
<td>Adult/Gerontological Health Practicum NP</td>
<td>3</td>
</tr>
<tr>
<td>8200:690</td>
<td>Clinical Management I</td>
<td>3</td>
</tr>
<tr>
<td>8200:692</td>
<td>Clinical Management II</td>
<td>3</td>
</tr>
<tr>
<td>8200:694</td>
<td>Clinical Management III</td>
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ADVANCED CERTIFICATE IN FAMILY CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT

The University of Akron has a long history of the interdisciplinary study of conflict, because understanding the nature of conflict is the first step toward reducing conflict and violence at home, in our communities, workplaces, and schools. This graduate certificate, jointly administered by the departments of Political Science and Sociology, will build on that tradition to enhance the capacity of students to effectively work toward reducing the harms associated with family conflict and violence.

Required Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:622</td>
<td>Seminar in Alternatives to Violence at Home and Abroad</td>
<td>3</td>
</tr>
<tr>
<td>3850:055</td>
<td>Family Violence</td>
<td>3</td>
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</tbody>
</table>

Skill Development Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:585-008</td>
<td>Seminar: General Mediation Training</td>
<td>3</td>
</tr>
<tr>
<td>7400:585-007</td>
<td>Seminar: Divorce Mediation Training</td>
<td>3</td>
</tr>
</tbody>
</table>
Elective Courses: (choose two)*:

3850:523 Sociology of Women 3  
3850:528 Victim in Society 3  
3700:690 Special Topics (conflict related) 1-3  
9200:633** Family Law 3  
9200:684** Alternative Dispute Resolution 3  
**Law School classes are offered on a space available basis and require the permission of instructor

Total credit hours 16

*To complete the certificate, students must submit a seminar paper from one of their courses selected from the electives list to the Director of the Center for approval as a scholarly investigation of the issues surrounding family conflict.

ADVANCED CERTIFICATE IN GLOBAL CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT

The University of Akron has a long history of the interdisciplinary study of conflict, because understanding the nature of conflict is the first step toward reducing conflict and violence at home, in our communities, workplaces, and schools. This graduate certificate, jointly administered by the departments of Political Science and Sociology, will build on that tradition to enhance the capacity of students to effectively work toward reducing the harms associated with global conflict and violence.

Required Core Courses:
- Conflict Analysis Core Courses
  - 3700:622 Seminar in Alternatives to Violence at Home and Abroad 3  
  - 3850:555 Family Violence 3  
- Skill Development Core Courses
  - 7400:585:008 Seminar: General Mediation Training 3  
  - 7400:585:007 Seminar: Divorce Mediation Training 3  

Elective Courses: (choose three)**:

3850:521 Race and Ethnic Relations 3  
3700:512 Global Environmental Politics 3  
3700:610 Seminar in International Politics 3  
3700:690 Special Topics (global conflict related) 1-3  

Total credit hours 19

*To complete the certificate, students must submit a seminar paper from one of their courses selected from the electives list to the Director of the Center for approval as a scholarly investigation of the issues surrounding global conflict.

ADVANCED ROLE SPECIALIZATIONS IN NURSING MANAGEMENT AND BUSINESS

This certificate program is open to all current master’s and doctoral students in the College of Nursing, post-baccalaureate students, post-MSN students, and post-doctoral nurses who are currently in advanced practice.

Admission:
- Formal admission to the University of Akron is required as either a post-baccalaureate student, graduate student, or non-degree graduate student. The awarding of this certificate is not contingent upon a degree completion program.

Program of Study:
- Students should successfully complete all four courses listed below.

8200:630 Resource Management in Nursing Settings 3  
8200:632 Fiscal Management in Nursing Administration 3  
8200:634 Nursing Leadership in Organizations II 3  
8200:635 Organizational Behavior in Nursing Settings 3

Total credit hours 12

APPLIED POLITICS

John C. Green, Ph.D., Director
The Ray C. Bliss Institute and the Department of Political Science have combined to offer a Certificate Program in Applied Politics for graduate students. The Certificate Program in Applied Politics offers course work in the history, organization, and management of campaigns intended to influence the outcome of political decisions. Working from a set of core courses, students are allowed to concentrate in the area of applied politics of greatest interest—campaigns, communications, lobbying, political parties, etc. Believing that democracy is best served by having active and informed citizens, the certificate is designed for all students, no matter what their degree program as long as they have a deep interest in 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/school in which they are enrolled. The student shall schedule courses with the assistance of an advisor at the earliest possible time.

Core Courses: (required – 12 credits):

3700:570 Campaign Management I 3  
3700:571 Campaign Management II 3  
3700:672 Seminar: Political Influence and Organizations 3  
3700:696 Internship in Government and Politics 3

Electives: (required – 6 credits):

Three credits selected from the following:

3700:540 Survey Research Methods 3  
3700:572 Campaign Finance 3  
3700:574 Political Opinion, Behavior and Electoral Policies 3  
3700:577 Lobbying 3  
3700:656 Campaign and Election Law 3  
7600:575 Political Communication 3

Three credits of additional course work from above or from approved courses from Political Science, Communication, Public Administration, or other departments.

Certificate
- Upon completion of their degree, M.A. in Political Science students who have completed certificate requirements will be awarded an M.A. degree in Political Science with a Certificate in Applied Politics. Majors in other disciplines will be given a Certificate in Applied Politics and have the certificate noted on their transcript.

BEHAVIORAL HEALTH NURSE PRACTITIONER – POST-MSN

The Post-MSN Behavioral Health Nurse Practitioner certificate program is designed for those nurses who hold the Master’s degree in Psychiatric Mental Health Nursing and are seeking preparation for the role of the psychiatric nurse practitioner. Upon completion of the 16 credit program, the students are eligible to sit for the psychiatric nurse practitioner certification examination.

Admission
- Admission criteria include the following:
  1. Holds an earned master’s degree with a specialty of psychiatric nursing.
  2. A GPA of 3.0 or better from the master’s degree program.
  3. Completes an interview with the program coordinator.

Program of Study
- Students must complete a minimum of 500 clinical hours for eligibility to sit for certification.

Required Courses:

8200:608 Pathophysiological Concepts 3  
8200:610 Advanced Adult/Gerontological Assessment with Practicum 3  
8200:612 Advanced Clinical Pharmacology 3  
8200:662 Clinical Psychopharmacology 3  
8200:663 Behavioral Health Nursing Internship (required) 1-4  

Total 16

CASE MANAGEMENT FOR CHILDREN AND FAMILIES

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. 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:
  1. Be formally admitted to The University of Akron as a postbaccalaureate, graduate or non-degree graduate student.
  2. Make written application to the program and receive written notification of admission from The Center for Family Studies.
Requirements

Core:
Students should successfully complete all three of the core courses listed below. However, the first two courses plus three hours of electives must be completed prior to the student’s enrollment in the practicum course.

3400:561 Case Management for Children and Families I 3
3400:562 Case Management for Children and Families II 3
3400:563 Practicum in Cross-Systems Case Management for Children and Families 3

Electives:
Students must successfully complete six credits of coursework selected from the various departmental courses listed below.

• Family and Consumer Sciences
  3400:501 American Families in Poverty 3
  3400:504 Middle Childhood and Adolescence 3
  3400:540 Family Crisis 3
  3400:546 Culture, Ethnicity and the Family 3
  3400:602 Family in Life-Span Perspective 3
  3400:610 Child Development Theories 3
  3400:651 Family and Consumer Law 3
  3400:665 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

CHILD AND ADOLESCENT HEALTH NURSE PRACTITIONER – POST-MSN

The Post-MSN Child and Adolescent Health Nurse Practitioner certificate program is designed for those nurses who hold the Master of Science in Nursing degree and are seeking preparation for the role of the pediatric nurse practitioner. Upon completion of the 17 credit hour program, the students are eligible to sit for the pediatric nurse practitioner certification examination.

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: Pathophysiological Concepts, Advanced Pediatric/Adolescent Assessment, Nutrition.

Program of Study

Students are required to complete a minimum of 500 clinical practice hours in conjunction with the Child and Adolescent Health Nursing courses.

Required Courses

8200:651 Child and Adolescent Health Nursing I 3
8200:652 Child and Adolescent Health Nursing II Practicum 2
8200:655 Child and Adolescent Health Nursing II Practicum 3
8200:656 Pharmacology for Child and Adolescent Health Nursing 2
8200:658 Child and Adolescent NP Internship (required 4 credits) 1-4

Total 17

COMPOSITION

Lance Svehla, Ph.D., Coordinator

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:

3300:670 Theory and Teaching of Basic Composition 3
3300:671 Theories of Composition 3
3300:674 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 3
3300:589 Seminar in English: Sociolinguistics 3
3300:670 Modern Linguistics 3
3300:689 Seminar in English: Stylistics 3
3300:689 Seminar in English: Contextual Linguistics 3

DIVORCE MEDIATION

Helen Cleminshaw, 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 (at minimum) in the behavioral sciences, such as psychology, social work, counseling, and marriage and family therapy, or child and family development. 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 preparation prior to entry to this 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
  7400:651 Family Consumer Law 3

– Accounting
  6200:601 Financial Accounting 3
  9200:621 Accounting for Lawyers 3

– Family
  5600:655 Marriage and Family Therapy: Theory and Techniques 3
  5600:667 Mental Therapy 3
  7400:607 Family Dynamics 3

Electives:

Students who have already completed coursework in Law, Accounting or Family may select from courses listed below:

5600:647 Career Counseling 3
5600:669 Systems Theory in Family Therapy 3
7400:540 Family Crisis 3
7400:590 Wi: Family and Divorce 2
7400:602 Family in Life-Span Perspective 3
9200:684 Alternate Dispute Resolution 3

E-BUSINESS

B. S. Vijayaraman, Ph.D., Director

A new model for business (e-Business) is taking shape that is built on the world’s largest communications network, the Internet. The Internet has opened up new possibilities for organizing and running a business and is changing the way businesses transact goods and services. The Internet creates a global platform for buying and selling goods and is used for redesigning business processes within organizations. As businesses invest in the commercialization of the Internet (WWW), there is an enormous need from a variety of fronts to understand the implications for strategic initiatives, marketing and advertising, financial markets, information systems strategy, human resource management, supply chain management and legal issues. A certificate program in e-Business is designed for students to learn how organizations can use Internet technology to create new business opportunities and how they can transform an existing business into an e-Business.

Persons are eligible for admission to the graduate certificate program in e-Business if they have been admitted to Graduate School at The University of Akron. Students admitted to the E-Business Certificate Program may enroll only in those courses required for the completion of the certificate.

Required Courses:

6600:620 E-Business Foundations 3
6600:622 E-Business Technologies 3
6400:685 E-Business: Legal Issues 3
6300:658 E-Business Risks, Controls, and Assurance Services 3

E-LEARNING

John R. Savery, Ph.D., Coordinator

Program

This certificate program in e-Learning requires a minimum of 16 credit hours. The certificate in e-Learning Technologies has been designed to assist students in
becoming competent, employable professionals capable of making a significant contribution in the field of education and training. The graduate curriculum provides its students with exposure to a wide range of distance learning technologies, while still ensuring the basic competencies required of all practitioners. In this way, the program directly addresses the rapidly accelerating changes in distance learning technologies.

**Admission**

All applicants to the program should have previously earned a Bachelor's degree. Applicants wishing to pursue a Master's degree in Educational Foundations emphasizing Instructional Technology must apply to the Graduate School for admission into the program. Applicants wishing to pursue only the certificate program must apply to the graduate school for admission as a non-degree student.

**Requirements (16 credits):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>5100:629</td>
<td>e-Learning Fundamentals</td>
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<tr>
<td>5100:630</td>
<td>Topical Seminar: Advanced Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>5100:631</td>
<td>Instructional Design</td>
<td>3</td>
</tr>
<tr>
<td>5100:632</td>
<td>Web-based Learning Systems</td>
<td>3</td>
</tr>
<tr>
<td>5100:639</td>
<td>Strategies for Online Instruction</td>
<td>3</td>
</tr>
<tr>
<td>5100:698</td>
<td>Technology Project</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>16</strong></td>
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</tbody>
</table>

**ENVIRONMENTAL ENGINEERING**

This certificate program provides practicing professionals an opportunity to expand their knowledge base in environmental engineering. It is designed for people who cannot make the full-time commitment to the graduate degree program but would like to receive recognition of their continued effort in the area of study or would like to cumulate credits toward their ultimate graduate degree goal.

**Admission Criteria**

This certificate is designed primarily for students with a B.S. degree in Civil Engineering or a closely related field.

**Program of Study**

Civil Engineering students may earn a Geotechnical Engineering Certificate by completing a total of 15 credit hours.

Civil Engineering students may earn an Environmental Engineering Certificate by completing five of the following courses:

- 4300:523 Chemistry for Environmental Engineers 3
- 4300:526 Environmental Engineering Design 3
- 4300:527 Water Quality Modeling and Management 3
- 4300:624 Biological Wastewater Treatment Processes 3
- 4300:631 Soil Remediation 3

**ENVIRONMENTAL STUDIES**

Ira D. Sasowsky, Ph.D., Director

**Program**

This graduate certificate program is designed for environmental professionals who wish to broaden their background or update their skills. In order to satisfy the course prerequisites, it is recommended that students have an undergraduate degree in one of the natural sciences, engineering, or a strong background in mathematics and science.

**Admission**

To participate in the program the student should:

- Be formally admitted to The University of Akron as a graduate or non-degree graduate student.
- Make a written application to the program and receive written notification of admission from the Center for Environmental Studies.

**Requirements**

A plan of study will be developed in consultation with the director of the Center for Environmental Studies. Students must complete the core requirement and a minimum of 14 credits from the list of electives or other courses approved by the director. Electives must be selected from a minimum of three different departments.

**Core (required):**

- 3010:501 Seminar in Environmental Studies 2

**Electives (minimum of 14 credits):**

- 3010:501 Seminar in Environmental Studies 2
- 3010:590 Workshop in Environmental Studies 1-4
- 3100:521 Tropical Field Biology 4
- 3100:525 Freshwater Ecology Field and Laboratory Studies 3
- 3100:526 Wetland Ecology 4
- 3100:680 Environmental Physiology 3
- 3100:526 Wetland Ecology 4

3100:660 Environmental Physiology 3
3350:505 Geographic Information Systems 3
3350:507 Advanced Geographic Information Systems 3
3350:547 Remote Sensing 3
3350:549 Advanced Remote Sensing 3
3350:596 Soil and Water Field Studies 3
3370:570 Geochmistry 3
3370:574 Groundwater Hydrology 3
3370:671 Geologic Record of Past Global Change 3
3370:674 Advanced Groundwater Hydrology 3
3370:678 Urban Geology 3
3400:571 American Environmental History 3
3470:561 Applied Statistics I 4
3700:512 Global Environmental Politics 3
3850:686 Population 3
4200:563 Pollution Control 3
4200:750 Advanced Pollution Control 3
4300:523 Chemistry for Environmental Engineers 3
4300:526 Environmental Engineering Design 3
4300:527 Water Quality Modeling and Management 3
4300:528 Hazardous and Solid Wastes 3
4300:620 Sanitary Engineering Problems 2
4300:621 Environmental Engineering Principles 4
4300:631 Soil Remediation 3
4300:731 Bioremediation 3
9200:661 Environmental Law 3

**GRADUATE CERTIFICATE IN GENDER CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT**

An 18 credit graduate certificate offering graduate students an opportunity to examine the scholarly debates surrounding gender conflicts.

**Required Courses:**

- 3700:522 Understanding Racial and Gender Conflict 3
- 3850:639 Sociology of Gender 3

**Electives:**

- 3700:502 Politics and the Media 3
- 3700:622 Seminar in Alternatives to Violence at Home and Abroad 3
- 3850:523 Sociology of Women 3
- 3850:646 Social Inequalities 3
- 3850:510 Social Structures and Personality 3
- 3850:541 Sociology of Law 3
- 3850:555 Family Violence 3
- 3850:753 ST. Gender and Crime 3
- 3320:516 Anthropology of Sex and Gender 3
- 3320:563 Social Anthropology 3
- 3300:589 Seminar in English: Subversive Women 3
- 3300:589 Seminar in English: British Women Writers 3
- 3400:590 Special Studies: Women, Film, and History 4
- 3400:669 Reading Seminar in American History Since 1877 (US Women's History) 4

**GEOGRAPHIC INFORMATION SCIENCES**

**Program**

The geographic information sciences (GISci) encompass a variety of powerful new tools that greatly improve our ability to collect, store, manage, analyze, and utilize information regarding the features of the Earth’s surface and to combine these with other types of economic, social, and environmental information. Included among these are geographic information systems (GIS), cartography, and satellite-based remote sensing. Professionals with proficiency in these concepts and methods are increasingly in demand in both the public and private sectors.

For further program information contact Graduate Advisor, Department of Geography and Planning, (330) 972-7620.

**Requirements**

This program of professional and scientific education is intended to enhance abilites in data handling, analysis, and graphic communication of simple and complex geographic data and information. The program is not limited to geography majors. It is designed to introduce GISci concepts and methods to students from a wide spectrum of disciplines. These courses provide for specialized study in the rapidly changing and significant area of GISci and cartography.

Eighteen (18) credits are required to complete this course. These include the four core courses:

- 3350:505 Geographic Information Systems 3
- 3350:507 Advanced Geographic Information Systems 3
- 3350:540 Principles of Cartography 3
- 3350:547 Remote Sensing 3

The remaining 6 credits shall come from the list of electives:

- 3350:542 Thematic Cartography 3
- 3350:544 Applications in Cartography and Geographic Information Systems 3
- 3350:548 Advanced Cartography 3
- 3350:549 Advanced Remote Sensing 3
GEOTECHNICAL ENGINEERING

This certificate program provides practicing professionals an opportunity to expand their knowledge base in geotechnical engineering. It is designed for people who cannot make the full time commitment to the graduate degree program but would like to receive recognition of their continued effort in the area of study or would like to cumulate credit hours toward their ultimate graduate degree goal.

Admission Criteria

This certificate is designed primarily for students with a B.S. degree in Civil Engineering or a closely related field.

Program of Study

Civil Engineering students may earn a Geotechnical Engineering Certificate by completing a total of 15 credit hours.

At least three (3) of the following courses must be taken:

- 4300:612 Advanced Soil Mechanics 3
- 4300:614 Foundation Engineering I 3
- 4300:615 Foundation Engineering II 3
- 4300:617 Numerical Methods in Geotechnical Engineering 3
- 4300:717 Soil Dynamics 3

Four of the following workshop courses may be taken and substituted for two (2) of the courses above:

- Load and Resistance Factor Design of Foundations and Geotechnical Features 1.5
- Ground Improvement Methods 1.5
- Mechanically Stabilized Earth Walls and Reinforced Soil 1.5
- Slopes 1.5
- Deep Foundations 1.5

Students interested in these workshop courses should contact the Department of Civil Engineering

GERONTOLOGY

Harvey L. Sterns, Ph.D., Director

Requirements

This certificate program is a special course of study in gerontology that compliments graduate degree programs in various departments and colleges throughout the University. There is a combined graduate certificate program with Kent State University. Combined, the two universities offer a diverse range of graduate courses with aging-related content and joint faculty that are nationally and internationally recognized scholars in gerontology. The graduate certificate is to be received with either a master’s or doctoral degree. Individuals who already hold a graduate degree may also pursue the certificate. The program represents a concentration involving current knowledge and research in gerontology. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that are becoming specialized in research and service to adults and older adults. This course of study coordinates multidisciplinary training of personnel in adult development and aging and helps to meet the critical shortage of trained individuals in the field of gerontology.

The graduate curriculum committee 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 of 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 Graduate School.
- Submit an application to the program countersigned by the student’s major academic advisor.
- Participate in an interview with the Director or designated faculty member of the Institute for Life-Span Development and Gerontology.
- Participate in an interview with the Director or designated faculty member to formulate a program of study.
- Receive written notification for admission from the director of the Institute for Life-Span Development and Gerontology.

Program

Minimum: 18 credits

Electives:**

- 3006:696 Retirement Specialist 2
- 3006:690 Workshop — Women: Middle and Later Years 2
- 3006:690 Workshop — Aging: Process and Intervention 2
- 3750:590 Policy Problems: Aging Offered every other year 3
- 3750:620 Psychology Core II: Developmental, Perceptual, Cognitive 2
- 3750:727 Psychology of Adulthood and Aging 4
- 3850:661 Cross Cultural Perspectives in Aging 3
- 3850:678 Social Gerontology 3
- 5400:541 Educational Gerontology Seminar 3
- 5400:661 Current Issues in Higher Education: Life-Span and Community Education 3
- 6500:683 Health Services Systems Management (with permission) 3
- 7400:603 Family Relationships in Middle and Later Years 3
- 7750:624 Neurogenic Speech and Language Disorders 3
- 7750:550 Social Needs and Services for Later Adulthood and Aging 3

*From student’s home department.

**Select a minimum of two courses. A student is required to take one of the electives outside the major or degree department. One credit workshop may be included as an elective, with permission.

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 advisor 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
- 5190:600 Advanced Administrative Colloquium in Higher Education 3
- 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 (I)

- 5190:515 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 (II)

- 5190:525 Topical Seminar in Higher Education 3
- 5190:526 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 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

HOME-BASED INTERVENTION THERAPY

Helen Cleminshaw, Ph.D., Coordinator

Program

This certificate program is a special course of study along with undergraduate and graduate degree programs in various departments and colleges throughout the Uni-
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 their 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 advisor (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 18 hours of graduate credits in core and elective coursework. In order to earn the interdisciplinary certificate in Home-Based Intervention, the student must complete the following requirements within six years after beginning the program.

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 3-6

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
  - 5600:643 Systems and Philosophy of Counseling 3
- Developmental Theory
  - 3850:512 Socialization: Child to Adult 3
  - 3820:602 Family in Life-Span Perspective 3
  - 3620:606 Developmental Parent-Child Interactions (online) 3
  - 3400:610 Child Development Theories 3
- Therapeutic Theory
  - 5600:651 Techniques in Counseling 3
  - 5600:667 Marital Therapy 3
  - 5600:699 Systems Theory in Family Therapy 3

Elective Courses (9 credits):
Select one course from three different disciplines. (Must be outside student’s major degree area.)

Specific Skill Areas:
- Psychology
  - 3750:530 Psychological Disorders of Children 4
  - 3750:704 Theories of Personality 3
- Sociology
  - 3850:550 Sociology of Mental Illness 3
  - 3850:688 Human Ecology 3
  - 3850:753 Family and Health (Special Topics) 1-3
- Counseling
  - 5600:550 Counseling Problems Related to Life-Threatening Illness and Death 3

HUMAN RESOURCE MANAGEMENT
Program
The Human Resource Management Certificate is a course of study that educates an individual who seeks a career in Human Resources or who is working in Human Resources without having had formal training.

Admission
To participate in the program, the student must be formally admitted to The University of Akron as a graduate or non-degree student and must complete 15 credits. Students should visit the Director of Graduate Studies in Business Administration to request that notification of the certificate be included on the student’s transcript as soon as the course of study is completed. Students admitted to the Human Resource Management Certificate Program may enroll only in those courses required for completion of the certificate.

Requirements (complete all 15 credits)
- 6500:600 Management and Organizational Behavior* 3
- 6500:601 Management and Organizational Behavior* 3

HUMAN RESOURCE MANAGEMENT
Program
The Human Resource Management Certificate is a course of study that educates an individual who seeks a career in Human Resources or who is working in Human Resources without having had formal training.

Admission
To participate in the program, the student must be formally admitted to The University of Akron as a graduate or non-degree student and must complete 15 credits. Students should visit the Director of Graduate Studies in Business Administration to request that notification of the certificate be included on the student’s transcript as soon as the course of study is completed. Students admitted to the Human Resource Management Certificate Program may enroll only in those courses required for completion of the certificate.

Requirements (complete all 15 credits)
- 6500:600 Management and Organizational Behavior* 3
- 6500:601 Management and Organizational Behavior* 3

LITERATURE
To be eligible for the graduate certificate in literature, 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 Graduate Coordinator in the Department of English. Of the five required courses (15 credits), two must be core courses, Chaucer and Shakespearean Drama; four of the five courses must be at the 600-level, and one must be American literature.

Core Courses:
- 3300:506 Chaucer* 3
- 3300:615 Shakespearean Drama 3

*Unless the student has passed a comparable course at the undergraduate level with a grade of B or better.

MANAGEMENT OF TECHNOLOGY AND INNOVATION
R. Ray Gehani, D.Eng., Ph.D., Director
In an increasingly global economy integrated with technology, the innovative enterprises with effective and efficient management of technology and innovation will gain competitive advantage over their rivals. To respond to these needs of our potential employers, this certificate program in Management of Technology and Innovation was developed by the College of Business Administration with the cooperation of the College of Polymer Science and Polymer Engineering and the guidance of the members of the Advancement Councils of the two colleges. This graduate certificate program offers courses in Management of Technology and other innovation-related business disciplines, including marketing, finance, accounting,
entrepreneurship, and more. This certificate program will prepare the learners to innovatively manage a technology-driven enterprise.

To participate in the program the student should:

• Be formally admitted to The University of Akron as a graduate or non-degree graduate student.

Students admitted to the Management of Technology and Innovation Certificate Program may enroll only in those courses required for completion of the certificate.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:665</td>
<td>Management of Technology</td>
<td>3</td>
</tr>
<tr>
<td>or 6500:669</td>
<td>Polymer Management Decisions</td>
<td>3</td>
</tr>
<tr>
<td>6600:600</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

**Recommended Electives:**

Select six credits from the following for which the proper prerequisites have been met:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:610</td>
<td>Process Analysis and Cost Management</td>
<td>3</td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>6500:600</td>
<td>Management and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6500:602</td>
<td>Computer Techniques for Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:608</td>
<td>Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>6500:650</td>
<td>Human Resource Systems for Managers</td>
<td>3</td>
</tr>
<tr>
<td>6500:654</td>
<td>Management of Organizational Conflict</td>
<td>3</td>
</tr>
<tr>
<td>6500:656</td>
<td>Management of Global Supply Chain and Operations</td>
<td>3</td>
</tr>
<tr>
<td>6600:540</td>
<td>Product and Brand Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**MOTION AND CONTROL SPECIALIZATION**

All manufacturing processes involve motion and control which may range from simple use of pneumatic cylinders in robotic systems to coordinated motion and sequence control in assembly lines. The technology in motion and control grows and changes at a pace that makes systems of over five years old almost obsolete. The primary purpose of the Motion and Control Specialization certificate program is to provide the graduating engineers with a focused expertise in motion and control and to furnish the necessary tools in order to enable them to follow the changes in technology after graduation. In addition, the program will also serve the practicing engineers and life-long learners to come back to school and refresh their skills using the certificate program.

Persons interested in this program should contact the Department of Mechanical Engineering.

**Admission:**

To participate in the program, the student should be formally admitted to The University of Akron as post-baccalaureate, graduate, or non-degree graduate student.

**Requirements:**

Students should successfully complete all three courses listed below.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4600:442/542</td>
<td>Industrial Automatic Control</td>
<td>3</td>
</tr>
<tr>
<td>4600:444/644</td>
<td>Robot, Design, Control and Application</td>
<td>3</td>
</tr>
<tr>
<td>4600:670</td>
<td>Integrated Flexible Manufacturing Systems *</td>
<td>3</td>
</tr>
</tbody>
</table>

* Undergraduate students must obtain permission to take this course.

**NEW MEDIA TECHNOLOGIES**

John R. Savery, Ph.D., Coordinator

All applicants to the program should have previously earned a bachelor’s degree. Applicants wishing to pursue a master’s degree in Educational Foundations emphasizing Instructional Technology must apply to the Graduate School for admission into the program. Applicants wishing to pursue only the certificate program must apply to the Graduate School for admission as a special non-degree student.

To receive the certificate in New Media Technologies, students are required to take 18 hours from the list of available electives.

**Available Electives:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:590</td>
<td>Workshop: Instructional Technology*</td>
<td>3</td>
</tr>
<tr>
<td>5100:631</td>
<td>Instructional Design</td>
<td>3</td>
</tr>
<tr>
<td>5100:632</td>
<td>Web-Based Learning Systems</td>
<td>3</td>
</tr>
<tr>
<td>5100:633</td>
<td>Hypermedia</td>
<td>3</td>
</tr>
<tr>
<td>5100:634</td>
<td>Visual Literacy</td>
<td>3</td>
</tr>
<tr>
<td>5100:635</td>
<td>Emerging Technologies</td>
<td>3</td>
</tr>
<tr>
<td>5100:636</td>
<td>Topical Seminar: Advanced Multimedia (may be repeated for 6 hours)</td>
<td>3</td>
</tr>
<tr>
<td>7600:590</td>
<td>Workshops in Music Technology*</td>
<td>3</td>
</tr>
<tr>
<td>7600:516</td>
<td>New Media Writing</td>
<td>3</td>
</tr>
<tr>
<td>7600:517</td>
<td>New Media Production</td>
<td>3</td>
</tr>
<tr>
<td>7600:588</td>
<td>Nonlinear Editing</td>
<td>3</td>
</tr>
<tr>
<td>7600:590</td>
<td>Workshops in Communication*</td>
<td>3</td>
</tr>
</tbody>
</table>

* Workshops may be repeated for a total of 6 credit hours.

**NURSE ANESTHESIA - POST MSN**

The Post-Master’s Nurse Anesthesia certificate program prepares Registered Nurses to become Certified Registered Nurse Anesthetists and requires 27 months of concentrated theory and clinical practice. The program is built upon a core of biophysical sciences, pharmacology, principles of anesthesia, and professional role issues. Graduates of the program are prepared to deliver all types of perioperative anesthesia care to patients of all ages in a wide variety of health care settings and are eligible to take the National Certifying Examination. The program consists of 18 credits of graduate-level course work upon completion of required prerequisites and approximately 1000-1500+ hours of direct anesthetic management.

**Admission**

Admission criteria include the following:

1. Hold an MSN degree from a professionally credentialed nursing program.
2. Minimum GPA of 3.0 on a 4.0 scale for the master’s degree program.
3. GRE (greater than 1200) or MAT (greater than 50) within the last five years.
4. Current Ohio state license as a registered nurse.
5. Recent one-year experience in adult critical care.
6. Three letters of reference from a recent employer; a member of the nursing profession; a former faculty member.
7. Interview prior to admission to the program.
8. Acceptance into the anesthesia track is competitive and is decided by voting of the Admission Committee members.

**Program of Study (Phase II):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:637</td>
<td>Residency I (Pediatrics and Obstetrics)</td>
<td>4</td>
</tr>
<tr>
<td>8200:646</td>
<td>Residency II (Cardiac, Thoracic, Cardiovascular, and Neurology)</td>
<td>4</td>
</tr>
<tr>
<td>8200:648</td>
<td>Residency III (Hepatic, Renal, Endocrine, Head &amp; Neck, Trauma, and Burns/Pain Management)</td>
<td>4</td>
</tr>
<tr>
<td>8200:647</td>
<td>Professional Role Seminar</td>
<td>2</td>
</tr>
<tr>
<td>8200:649</td>
<td>Residency IV (Senior Seminar)</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 18

**NURSING EDUCATION**

The certificate in Nursing Education allows for advanced role specialization in nursing education. Four sequential courses for a total of 12 credit hours comprise the certificate requirements. The certificate program is open to all current master’s and doctoral students in the College of Nursing; post-baccalaureate students, post-MSN students, post-doctoral and faculty currently teaching in nursing programs. Formal admission to The University of Akron is required as either a post-baccalaureate student, graduate student or non-degree graduate student. The awarding of this certificate is contingent upon a degree completion program.

For information concerning admission to the certificate program, please contact the College of Nursing, Graduate Program, (330) 972-7555.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:681</td>
<td>Instructional Methods in Nursing Education</td>
<td>3</td>
</tr>
<tr>
<td>8200:682</td>
<td>Nursing Curriculum Development</td>
<td>3</td>
</tr>
<tr>
<td>8200:683</td>
<td>Evaluation in Nursing Education</td>
<td>3</td>
</tr>
<tr>
<td>8200:684</td>
<td>Practicum: The Academic Role of the Nurse Educator</td>
<td>3</td>
</tr>
</tbody>
</table>

**PARENT AND FAMILY EDUCATION**

Susan D. Witt, 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 Coordinator. This certificate represents a concentration in theoretical and practical knowledge in parent and family education for community-based services. This course of study promotes collaboration among disciplines and services.

**Admission**

To participate in the program the student should:

Be formally admitted to The University of Akron as a post-baccalaureate, graduate or non-degree graduate student.

Contact the Coordinator of the program for requirements.
Requirements

Core:
Students must successfully complete all 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.

- 5400:506 Parent Education 3
- 5400:605 Developmental Parent-Child Interactions (online) 3
- 5400:594 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
  - 5400:501 American Families in Poverty 3
  - 5400:504 Middle Childhood and Adolescence 3
  - 5400:540 Family Crisis 3
  - 5400:546 Culture, Ethnicity and the Family 3
  - 5400:602 Family in Life-Span Perspective 3
  - 5400:610 Child Development Theories 3
  - 5400:665 Development in Infancy and Early Childhood 3

- Social Work
  - 7750:555 The Black Family 3
  - 7750:685 Social Work Practice: Family and Children 3

- Nursing
  - 8200:651 Child and Adolescent Health Nursing I 5

- Psychology
  - 3750:530 Psychological Disorders of Children 4
  - 3750:726 Child Psychology 4
  - 3750:737 Psychology of Learning Disabilities 4

- Sociology
  - 3850:512 Socialization Child to Adult 3
  - 3850:677 Family Analysis 3

- Educational Foundations
  - 5100:648 Individual and Family Development Across the Lifespan 3
  - 5100:721 Learning Processes 3

- Educational Guidance and Counseling
  - 5600:646 Multicultural Counseling 3
  - 5600:648 Individual and Family Development Across the Lifespan 3
  - 5600:655 Marriage and Family Therapy: Theories and Techniques 3
  - 5600:667 Marital Therapy 3
  - 5600:669 Systems Theory in Family Therapy 3

- Special Education
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3
  - 5610:559 Communication and Consultation with Parents and Professionals 3

- Multicultural Education (Curricular and Instructional Studies)
  - 5500:571 Characteristics of Culturally Diverse Populations 3

- Educational Administration
  - 5170:604 School/Community Relations 3

POSTSECONDARY TEACHING

Susan J. Olson, Ph.D., Coordinator (e-mail: solson@uakron.edu)

Program
This certificate program in Postsecondary Teaching is a special course of study within the College of Education graduate programs to serve the practicing or prospective postsecondary faculty.

Persons are eligible for admission to the Certificate in Postsecondary Teaching if they have fully admitted to The University of Akron to study as a graduate student. Individuals who already hold undergraduate or graduate degrees may also pursue this certificate. All coursework must be completed in six years. Beginning Fall 2006 all courses will also be available online.

Requirements

Minimum: 19 Credits

- 5400:500 Postsecondary Learner 3
- 5400:501 Learning with Technology 1
- 5400:506 Workforce Education for Youth and Adults 3
- 5400:600 The Two-Year College 3
- 5400:620 Postsecondary Instructional Technology 3
- 5400:530 Systematic Curriculum Design for Postsecondary Instruction 3
- 5400:535 Systematic Instructional Design in Postsecondary Education 3
- 5400:675 Advanced Instructional Applications Seminar 3

NOTE: 5400:501 is required before (or with) first courses in Postsecondary Technical Education (5400). The Instructional Applications Seminar is the last course taken.

PUBLIC ADMINISTRATION AND URBAN STUDIES

Requirements
The certificates will require the successful completion of 15 graduate credits of defined coursework in a single content or issue area within either public administration or urban affairs. Upon completion of the coursework a certificate will be issued.

Admission
To participate in the certificate program an applicant must meet the requirements for entrance into the Graduate School. A student must have a bachelor’s degree and the equivalent of five years experience in a professional, administrative, or leadership position. Applicants for admission as a non-degree graduate student within the department or students who are fully admitted to other graduate programs of the University and meet the experiential requirements are eligible for the certificates. Students admitted to the graduate programs of the department are not eligible for the certificate programs. Should a student wish to pursue additional coursework, the student must seek formal admission to either the MA in Urban Studies or MPA program. Participation in the certificate program in no way promotes or assures admission to graduate programs of the department, nor does it alter the requirements for admission to those degree programs. Subject to the Graduate School’s time limitation rule for degree completion, once a student has been admitted to a degree program, courses taken as part of a certificate program may be transferred into either of the department’s master’s programs.

Program
There are six variations of the Certificate Program in Public Administration and Urban Studies; a certificate in Public Management, a certificate in Non-profit Management, a certificate in Local and Regional Development Administration, a certificate in Policy Analysis, a certificate in Program Evaluation, and a certificate in Urban Affairs. Each certificate requires the successful completion of 15 credit hours of required and elective coursework offered by the Department of Public Administration and Urban Studies, as specified below.

Public Management
- 3980:611 Introduction to the Profession of Public Administration (required) 3
- 3980:615 Public Organization Theory (required) 3
- 3980:616 Public Personnel 3
- 3980:617 Leadership and Decision Making (required) 3
- 3980:618 Citizenship Participation 3
- 3980:626 Grantsmanship 3
- 3980:650 Strategic Management in Public and Non-profit Sectors 3
- 3980:680 Special Topics 3

Non-profit Management
- 3980:617 Leadership and Decision Making 3
- 3980:619 Community Organizing 3
- 3980:626 Grantsmanship (required) 3
- 3980:650 Strategic Management in Public and Non-profit Sectors (required) 3
- 3980:652 Fund Raising and Resource Management (required) 3
- 3980:653 Nonprofit Management (required) 3
- 3980:680 Special Topics 3

Local and Regional Development
- 3980:602 History of Urban Development (required) 3
- 3980:612 National Urban Policy 3
- 3980:619 Community Organizing 3
- 3980:641 Urban Economic Growth and Development (required) 3
- 3980:650 Comparative Urban Systems 3
- 3980:661 Public Project Design and Management (required) 3
- 3980:681 Special Topics 1-3

Policy Analysis
- 3980:600 Basic Quantitative Research (required) 3
- 3980:601 Advanced Quantitative Research (required) 3
- 3980:640 Fiscal Analysis 3
- 3980:643 Introduction to Public Policy 3
- 3980:673 Computer Applications in Public Organizations 3
- 3980:674 Analytical Techniques for Public Administration (required) 3
- 3980:680 Special Topics 3

Program Evaluation
- 3980:600 Basic Quantitative Research (required) 3
- 3980:601 Advanced Quantitative Research (required) 3
- 3980:640 Fiscal Analysis 3
- 3980:671 Program Evaluation in Urban Studies (required) 3
- 3980:673 Computer Applications in Public Organizations 3
- 3980:674 Analytical Techniques for Public Administration 3
- 3980:680 Special Topics 3

Urban Affairs
- 3980:602 History of Urban Development (required) 3
- 3980:612 National Urban Policy (required) 3
- 3980:618 Citizen Participation 3
- 3980:619 Community Organizing 3
GRADUATE CERTIFICATE IN RACIAL CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT

An 18 credit graduate certificate that offers students the opportunity to intensively examine racial conflict from an interdisciplinary perspective.

Required Courses:
- 3700:522 Understanding Racial and Gender Conflict 3
- 3850:521 Racial and Ethnic Relations 3

Electives:
- 3700:502 Politics and the Media 3
- 3700:562 Supreme Court and Civil Liberties 3
- 3700:530 Management of Probation and Parole 3
- 3700:622 Seminar in Alternatives to Violence at Home and Abroad 3
- 3850:646 Social Inequities 3
- 3850:610 Social Structures and Personality 3
- 3850:630 Juvenile Delinquency 3
- 3850:541 Sociology of Law 3
- 3230:510 Evolution and Human Behavior 3
- 3230:563 Social Anthropology 3
- 3400:538 Nazi Germany 3
- 3400:554 The Civil War and Reconstruction, 1850-1877 4

Minimum: 19 Credits

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

**NOTE:** 5400:501 is required before or with first courses in Postsecondary Technical Education (5400). The Instructional Applications Seminar is the last course taken.

TECHNICAL AND SKILLS TRAINING

Getler Jensrud, Ph.D., Coordinator (e-mail: getler@uakron.edu)

This certificate program provides practicing professionals an opportunity to expand their knowledge base in the design and operation of transportation systems. It is designed for people who cannot make the full time commitment to the graduate degree program but would like to receive recognition of their continued effort in the area of study or would like to cumulate credit hours toward their ultimate graduate degree goal.

Admission Criteria

This certificate is designed primarily for students with a B.S. degree in Civil Engineering or a closely related field.

Program of Study

Civil Engineering students may earn a Transportation Engineering Certificate by completing the following three courses:

- 4300:564 Highway Design 3
- 4300:565 Pavement Engineering 3
- 4300:566 Traffic Engineering 3

and two of the following courses:

- 4300:567 Advanced Transportation Engineering I 3
- 4300:568 Advanced Transportation Engineering II 3
- 4300:569 Traffic Detection and Data Analysis 3

Total 15

WOMEN’S STUDIES

For information, contact Women’s Studies, located in the Polsky Building 315B, (330) 972-7008.

Interdisciplinary and specialized, the Women’s Studies graduate program fosters a critical approach to knowledge about women. By focusing on cultural practices that have largely excluded and devalued differences in gender, sexual orientation, ethnicity, race, and class, Women’s Studies prepares students to appreciate and act in a pluralistic world. The Women’s Studies graduate certificate integrates scholarship and research on women and gender from literature, psychology, history, sociology, and communication. Students are challenged to explore diverse viewpoints and discover the partial and often self-interested emphases of our society’s most powerful institutions – family, church, academia, business, and government.

Admission

Hold a Bachelor’s Degree with a minimum 2.75 grade point average.

Requirements (required 5-7)

- 1840:580 Feminist Theory 3
- 1840:589 Internship in Women’s Studies 1-4
- 1840:590 Workshop: Women’s Studies Lecture Series 3

Electives

Three classes selected from the Women’s Studies Coordinating Council-approved list of graduate level courses.

- 1840:585 Special Topics in Women's Studies: Women, Minorities and Media 3
- 1840:585 Special Topics in Women's Studies: Women, Poverty and Welfare 3
- 1840:585 Special Topics in Women's Studies: Women as Survivors 3
- 1840:585 Special Topics in Women's Studies: Worlds of Women 3
- 1840:589 Internship in Women's Studies 3
- 3220:553 American Women Poets 3
- 3300:516 The Anthropology of Sex and Gender 3
- 3300:589 Seminar in English: Twentieth Century Women Writers 3

Kenneth J. Pakenham, Ph.D., Director

Requirements

This program is intended for those seeking training and an initial qualification in the area of study or would like to cumulate credit hours toward their ultimate graduate degree goal.

Admission Criteria

This certificate is designed primarily for students with a B.S. degree in Civil Engineering or a closely related field.

Program of Study

Civil Engineering graduates may earn a Structural Engineering Certificate by completing the following five courses:

- 4300:551 Computer Methods of Structural Analysis 3
- 4300:554 Advanced Mechanics of Materials 3
- 4300:605 Structural Stability 3
- 4300:684 Advanced Reinforced Concrete Design 3
- 4300:685 Advanced Steel Design 3

Total 15
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3300:589</td>
<td>Seminar in English: Women and Film</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: American Women Regionalists</td>
<td>2-3</td>
</tr>
<tr>
<td>3400:500</td>
<td>Women in Revolutionary China</td>
<td>3</td>
</tr>
<tr>
<td>3750:574</td>
<td>Psychology of Women</td>
<td>4</td>
</tr>
<tr>
<td>3850:523</td>
<td>Sociology of Women</td>
<td>3</td>
</tr>
<tr>
<td>3850:555</td>
<td>Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>7100:501</td>
<td>Special Topics in History of Art: Women in Art</td>
<td>3</td>
</tr>
<tr>
<td>7400:585</td>
<td>Seminar: Women and Food</td>
<td>1-3</td>
</tr>
<tr>
<td>7600:508</td>
<td>Women, Minorities, and News</td>
<td>3</td>
</tr>
<tr>
<td>7750:511</td>
<td>Women's Issues in Social Work Practice</td>
<td>3</td>
</tr>
<tr>
<td>9200:654</td>
<td>Seminar: Feminist and Race Theory</td>
<td>3</td>
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</tbody>
</table>

or other classes as approved by Women's Studies Graduate Coordinator for the certificate.
### INTERDISCIPLINARY PROGRAMS

#### DIVORCE MEDIATION

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>601</td>
<td>DIVORCE MEDIATION</td>
<td>3</td>
<td>Perequisite: Admission to the Graduate Certificate Program on Divorce Mediation.</td>
</tr>
</tbody>
</table>

#### HOME-BASED INTERVENTION THERAPY

<table>
<thead>
<tr>
<th>Course Number</th>
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</tr>
</thead>
<tbody>
<tr>
<td>503</td>
<td>HOME-BASED INTERVENTION THERAPY</td>
<td>3</td>
<td>Perequisite: Certification in Human Services. Overview of home-based intervention to include philosophy and description of this programming as well as assessment of family, their home and community environment.</td>
</tr>
</tbody>
</table>

#### HOME-BASED INTERVENTION TECHNIQUES AND PRACTICE

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>504</td>
<td>HOME-BASED INTERVENTION TECHNIQUES AND PRACTICE</td>
<td>3</td>
<td>Perequisite: Provides intervention techniques and skill areas required for home-based intervention and learning opportunities for matching techniques with specific family problems.</td>
</tr>
</tbody>
</table>

#### HOME-BASED INTERVENTION INTERNSHIP

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>505</td>
<td>HOME-BASED INTERVENTION INTERNSHIP</td>
<td>3-5</td>
<td>Perequisite: Provides students the opportunity to apply knowledge of home-based intervention in actual delivery process working with families in their homes under the direct supervision of trained, experienced home-based intervention therapists.</td>
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</tbody>
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### WOMEN'S STUDIES

<table>
<thead>
<tr>
<th>Course Number</th>
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<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>580</td>
<td>FEMINIST THEORY</td>
<td>3</td>
<td>Perequisite: 1840/300. A summary of feminist theory to familiarize students with the main currents in contemporary feminist theory and the origins and evolution of that thought.</td>
</tr>
</tbody>
</table>

#### SPECIAL TOPICS IN WOMEN'S STUDIES

<table>
<thead>
<tr>
<th>Course Number</th>
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</tr>
</thead>
<tbody>
<tr>
<td>585</td>
<td>SPECIAL TOPICS IN WOMEN'S STUDIES</td>
<td>1-3</td>
<td>Perequisite: Specialized topics and current issues in Women's Studies. Covers content and issues not currently addressed in other academic courses. Emphasizes will be on original source materials, critical analyses and the synthesis of empirical and theoretical aspects.</td>
</tr>
</tbody>
</table>

#### INTERNSHIP IN WOMEN'S STUDIES

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>589</td>
<td>INTERNSHIP IN WOMEN'S STUDIES</td>
<td>1-4</td>
<td>Perequisite: (May be repeated for a maximum of 4 credits.) Perequisite: Permission of Director of Women's Studies. This class provides supervised experience and on-the-job training in an organization, agency, corporation or group dealing with women's issues.</td>
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#### WORKSHOP

<table>
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<tr>
<th>Course Number</th>
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<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>590</td>
<td>WORKSHOP</td>
<td>1-3</td>
<td>(May be repeated.) Group experiential study of special issues in Women's Studies.</td>
</tr>
</tbody>
</table>

#### INDIVIDUAL STUDIES ON WOMEN

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>593</td>
<td>INDIVIDUAL STUDIES ON WOMEN</td>
<td>1-3</td>
<td>(May be repeated.) Directed study of selected topics related to women. Projects are chosen by student in consultation with instructor and approval of Director of Women's Studies.</td>
</tr>
</tbody>
</table>

### COOPERATIVE EDUCATION

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>COOPERATIVE EDUCATION</td>
<td>0</td>
<td>Perequisite: Must complete 12 graduate credit hours with at least a 3.0 overall grade point average. (May be repeated.) For cooperative education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required. Graded credit/No credit.</td>
</tr>
</tbody>
</table>

### INSTITUTE FOR LIFE-SPAN DEVELOPMENT & GERONTOLOGY

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>680</td>
<td>INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT &amp; GERONTOLOGY</td>
<td>3</td>
<td>Perequisite: permission. The certificate program student only. Explores interdisciplinary issues in life-span development and gerontology. Guest speakers from philosophy, industry, organization, agency, corporation or group dealing with women's issues.</td>
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</tbody>
</table>

#### SPECIAL TOPICS

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>685</td>
<td>SPECIAL TOPICS</td>
<td>1-3</td>
<td>Perequisite: Permission of instructor. Specialized topics and current issues in life-span development, gerontology, or gender. Emphasis is on original source materials, critical analyses and syntheses of empirical, theoretical and applied aspects.</td>
</tr>
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</table>

#### RETIREMENT SPECIALIST

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
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<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>686</td>
<td>RETIREMENT SPECIALIST</td>
<td>2</td>
<td>Perequisite: Supervised experience in research or community agency work.</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL STUDIES

<table>
<thead>
<tr>
<th>Course Number</th>
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<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>501</td>
<td>SEMINAR IN ENVIRONMENTAL STUDIES</td>
<td>2</td>
<td>Perequisite: Graduate standing. Specific environmental science topics. Students complete a research project where they collect, analyze, and interpret real world data.</td>
</tr>
</tbody>
</table>
BIOLOGY 3100:

500 FOOD PLANTS
A survey of the plants used for human food, including their history, structure, uses. 2 credits

506 PRINCIPLES OF SYSTEMATICS
The science of identifying, naming, and classifying the diversity of life. Topics include: nomenclature, systematic typology, techniques of data collection, and methods of phylogenetic reconstruction. 3 credits

512 ADVANCED ECOLOGY
Advanced study of the ecology of individuals, populations, communities, and ecosystems. Laboratory. 3 credits

518 FIELD ECOLOGY
Introduction to sampling methods, design of experiments and observations, and computer analysis; some local natural history. 4 credits

521 TROPICAL FIELD ECOLOGY
Ecology of coral reefs, tide pools, intertidal zones, terrestrial flora and fauna, island biogeography. Taught at a field station in the tropics. 4 credits

522 CONSERVATION BIOLOGY
Explores the factors affecting survival of biodiversity and how to develop practical approaches to resolve complicated conservation issues. 3 credits

523 POPULATION BIOLOGY
Discussion of plant and animal ecology and evolutionary biology from a species and population level perspective. Includes topics in population ecology and population genetics. 3 credits

526 WETLAND ECOLOGY
Wetland ecology; principles and conservation. Field studies will be conducted at Bath Nature Preserve. Laboratory. Field trips involved; minor transportation costs. 4 credits

527 LIMNOLOGY
This course explores the diversity of aquatic life and key biotic characteristics of freshwater ecosystems with emphasis on the Great Lakes. Includes field trips. 4 credits

528 BIOLOGY OF BEHAVIOR
Biological basis of behavior: ethological theory; function, causation, evolution and adaptiveness of behavior. May be taken without 426/526. 3 credits

531 BIOLOGY OF BEHAVIOR LABORATORY
Individualized, directed study to produce student with firsthand experience in observing, describing and interpreting animal behavior. 1 credit

530 COMMUNITY/ECOSYSTEM ECOLOGY
History of the ecosystem concept; components, processes, and dynamics of communities and ecosystems; analysis and design of ecosystem experiments. Laboratory. 4 credits

533 PATHOGENIC BACTERIOLOGY
Study of major groups of bacteria which produce infections in humans. Biochemical properties of microorganisms which engender virulence and nature of host resistance. Laboratory. 4 credits

537 IMMUNOLOGY
Nature of antigens, antibody response, and antigen-antibody reactions. Site and mechanism of antibody formations, hypersensitivity, immunologic tolerance and immune diseases considered. 4 credits

538 ADVANCED IMMUNOLOGY
Immunology is studied from a historical and current perspective. Topics include T cells, B cells, antigen presentation, HIV, and transplantation. 3 credits

540 MYCOLOGY
Structure, life history, classification of representative fungi with emphasis on the importance of fungi to humans. Laboratory. 4 credits

541 PLANT DEVELOPMENT
Embryology and morphogenesis of plants in relation to physical, chemical, genetic and spatial factors. Laboratory. 4 credits

542 PLANT ANATOMY
Structure and development of cells, tissues, organs and organ systems of seed plants. Laboratory. 3 credits

543 PHYSIOLOGY
Examination of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory. 4 credits

544 FIELD MARINE PHYSIOLOGY
Collection and identification of tropical marine algae on San Salvador Island, The Bahamas. Discussion of characteristics and ecology of major groups of Caribbean algae. Laboratory. 3 credits

545 PLANT MORPHOLOGY
Structure, reproduction, life cycles, ecology, evolution, economic significance of land plants: bryophytes, club-mosses, whisk ferns, horsetails, ferns, seed plants. Laboratory. Field trips involved; minor transportation costs. 4 credits

550 GENERAL ENTOLOGY
Classification of insects; their classification, functional morphology, adaptive radiation and life history. A phylogenetic approach is used. Laboratories parallel lectures. 4 credits

551 INVERTEBRATE ZOOLOGY
Evolutionary study of invertebrates and their relationship to algal form and structure. Laboratory. 4 credits

552 PARASITOLOGY
Principles of parasitism; host parasite interactions; important human and veterinary parasitic diseases, and control measures. Laboratories parallel lectures. 4 credits

556 ICHTHYOLGY
Study of fishes; incorporates aspects of evolution, anatomy, physiology, natural history, and commercial exploitation of fishes. Laboratory incorporates field-based exercises and fishery management. 4 credits

557 ORNITHOLOGY
Introduction to the biology of birds: classification, anatomy, physiology, behavior, ecology and evolution, natural history and field identification. Laboratory. Field trips involved; minor transportation costs. 4 credits

558 VERTEBRATE ZOOLOGY
Biological study of vertebrates, except birds – evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips. 4 credits

561.2 HUMAN PHYSIOLOGY
Detailed study of the function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal and endocrine physiology. Laboratory. 4 credits each
681 CYTOLOGY
The study of how a cell's structure, biochemistry, metabolism, and molecular biology integrate to produce cell function. Laboratory. 4 credits
683 SELECTED TOPICS IN MICROBIOLOGY
The study of organization, function, and development of the vertebrate nervous system. 3 credits
685 ADVANCED CELL PHYSIOLOGY
Structure and functional organization of cells at ultrastructural level. Three lecture hours a week. 3 credits
688 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY
Modern cytochemical methods using transmission electron microscopy. Portfolio required to demonstrate proficiency in fixation techniques, use of ultramicrotome, light and electron microscopes and darkroom techniques. 3 credits
689 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY
An introduction of modern cytological methods using the scanning electron microscope. A portfolio is required to demonstrate proficiency in fixation techniques, the use of supplemental equipment such as the critical point drying apparatus and the sputter-coating apparatus and the efficient use of the scanning electron microscope. 3 credits
695 SPECIAL TOPICS: BIOLOGY
May be repeated Prerequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists. 1-3 credits
697 BIOLOGY COLLOQUIUM
May be repeated Prerequisite: permission. Attendance at all departmental seminars and presentation of seminar based on original research. Required of all thesis option students who shall present their thesis research. 1-6 credits
699 MASTER'S THESIS
May be repeated A minimum of six credits is required for thesis option student. 1-12 credits
701 RESEARCH TECHNIQUES IN INTEGRATED BIOLOGY
Students will learn the common techniques that are applicable across broad areas of research in integrated biology. 4 credits
702 COMMUNICATING IN INTEGRATED BIOLOGY
Communication of basic science topics to professionals of a broad audience. Students present topics to professionals and to other (non-discipline) students in the course. 2 credits
703 PROBLEM SOLVING IN INTEGRATED BIOLOGY
Prerequisite: 702. Students will learn how to study complex systems and get hands-on experience working in interdisciplinary teams. 3 credits
792 INTEGRATED BIOLOGY COLLOQUIUM
Prerequisite: Permission. Seminars of original research from a broad range of bioscience-related fields. 1-2 credits
899 DOCTORAL DISSERTATION
Original research by the doctoral student. 3-12 credits

BIOLOGY/NEOUCOM 3110:

630 HUMAN GROSS ANATOMY I
Prerequisites: graduate standing and permission. An intensive survey of human macroanatomy. 3 credits
631 HUMAN GROSS ANATOMY II
Prerequisite: graduate standing and permission. An intensive survey of human macroanatomy. 3 credits
695 SPECIAL TOPICS: BIOLOGY/NEOUCOM
Prerequisite: permission of instructor. Advanced topics in medical education covering areas not otherwise available. May be repeated with a change in topic. 1-6 credits

CHEMISTRY 3150:

501 BIOCHEMISTRY LECTURE I
Prerequisite: Graduate status or permission of department. Biochemistry of amino acids, carbohydrates, lipids, and nucleic acids: structure/function relations. Enzymes as catalysts: kinetics and regulation. Coenzymes. 3 credits
502 BIOCHEMISTRY LECTURE II
Prerequisite: 501, graduate status or permission of department. Overview of metabolism of organics, carbohydrates, fatty acid, amino acid, and nucleic acid metabolism; hormonal control of metabolism. Photosynthesis. 3 credits
572 ADVANCED INORGANIC CHEMISTRY
Prerequisite: Graduate status or permission of department. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometals and metal carbonyls. 3 credits
578 WORKSHOP IN CHEMISTRY
May be repeated. Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry. 1-3 credits
583 BIOCHEMISTRY LECTURE III
Prerequisites: 501 and 502, graduate status or permission of department. DNA, RNA and protein metabolism. Translation and transcription. Gene function and expression. 3 credits
610 BASIC QUANTUM CHEMISTRY
Prerequisite: Graduate status or permission of department. Quantum mechanics with applications to molecular systems. Includes angular momentum, molecular hamiltonians, variation and perturbation methods and molecular orbital theories. 3 credits
611 SPECTROSCOPY
Prerequisites: 610, graduate status or permission of department. Interaction of light with matter, linear and nonlinear spectroscopies. Rotational, vibrational and electronic spectroscopy. Radiationless transitions and photochemistry. 3 credits
619 TRANSITION-METAL ORGANOMETALLICS
Prerequisite: Graduate status or permission of department. The organometallic chemistry of the transition metals and their applications. Topics covered include synthesis, characterization methods, structure, bonding, reactivity, and application. 3 credits
620 MAIN GROUP ORGANOMETALLICS
Prerequisite: Graduate status or permission of department. The organometallic chemistry of main group elements. Topics covered include synthesis, characterization methods, structure, bonding, reactivity, and application. 3 credits
621 ADVANCED PREPARATIONS
Prerequisite: Graduate status or permission of department. Methods for preparing and purifying organic and inorganic compounds. Laboratory. 1-2 credits
625 CHEMISTRY SEMINAR
Prerequisite: Graduate status or permission of department. Lectures on current research topics in chemistry by invited speakers. 1 credit

629 PHYSICAL INORGANIC CHEMISTRY
Prerequisite: Graduate status or permission of department. Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanism, electronic spectra, molecular orbital theory. 3 credits
630 THEORETICAL INORGANIC CHEMISTRY
Prerequisite: 629, graduate status or permission of department. Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanism, electronic spectra, molecular orbital theory. 2 credits
631 METALS IN MEDICINE
Prerequisite: 572, graduate status or permission of department. This course will cover the synthesis and development of metals and medicines including the tumor drug cisplatin, technetium 99m based imaging agents, and silver antimicrobials. 3 credits
635 THERMODYNAMICS AND STATISTICAL THERMODYNAMICS
Prerequisites: Graduate status or permission of department. Rigorous treatment of laws of thermodynamics and their applications in selected chemical systems. Fundamentals of statistical thermodynamics and applications to systems in chemical equilibrium. 3 credits
636 CHEMICAL KINETICS
Prerequisite: 503, graduate status or permission of department. Phenomenological and empirical methods of investigation and analysis of reaction systems. Theoretical treatments of reaction rates. 3 credits
639 DESCRIPTIVE INORGANIC CHEMISTRY
Prerequisite: Graduate status or permission of department. The synthesis, characterization, structure, bonding, and reactivity of inorganic compounds. Emphasis is placed on applications and on examples from the recent literature. 3 credits
640 CHEMICAL SEPARATIONS
Prerequisites: Graduate status or permission of department. General theory, instrumentation and application of methods of separation. Emphasis on modern chromatographic techniques and recent advances. 3 credits
641 SPECTRAL METHODS
Prerequisites: Graduate status or permission of department. Theory and application of instrumental measurements. Interpretation of data. 3 credits
645 X-RAY CRYSTALLOGRAPHY
Prerequisite: Graduate status or permission of department. The theoretical and practical aspects of single crystal x-ray crystallography are discussed. Topics covered include diffraction, space groups, structure solution and refinement. 3 credits
647 ELECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS
Prerequisites: Graduate status or permission of department. Determination of the structures of organic compounds by spectroscopic analysis: ORIDCD, UV/VIS spectroscopy, IR spectroscopy, mass spectrometry, FTNMR spectroscopy, 2D NMR. 3 credits
683 MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY I
Prerequisites: Graduate status or permission of department. Introduction to the structural and mechanistic aspects of organic reactions: HMO calculations, acids and bases, equilibrium, kinetics, linear free energy relationships, reactive intermediates, reaction mechanisms. 3 credits
684 MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY II
Prerequisites: 683, graduate status or permission of department. Synthetic organic chemistry from a mechanistic perspective: nucleophilic and electrophilic substitution and addition reactions, carbonyl chemistry, functional group manipulations, oxidations, reductions, cycloaddition reactions. 3 credits
699 MASTER'S THESIS
Prerequisite: Graduate status or permission of department. For properly qualified candidates for master's degree. Supervised original research in analytical, inorganic, organic, physical or biochemistry. 1-16 credits

710 SPECIAL TOPICS: ANALYTICAL CHEMISTRY
Prerequisite: Graduate status or permission of department. Topics in advanced analytical chemistry. Electroanalysis, activation analysis, atomic absorption spectrometry, mass spectrometry, liquid-liquid and solid-gas chromatography, ion-exchange, thermodynamic methods, separations, standards, sampling, recent developments. 1-3 credits
711 SPECIAL TOPICS: INORGANIC CHEMISTRY
(May be repeated) Prerequisite: Graduate status or permission of department. Consideration of modern inorganic chemistry such as coordination compounds, chemistry of the solid state, representative elements, nonaqueous solvents, organometallic compounds, homogeneous catalysis. 1-3 credits
712 SPECIAL TOPICS: ORGANIC CHEMISTRY
(May be repeated) Prerequisite: Graduate status or permission of department. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, biochemistry. 1-3 credits
713 SPECIAL TOPICS: PHYSICAL CHEMISTRY
(May be repeated) Prerequisite: Graduate status or permission of department. Subject matter as per department approval. 1-3 credits
715 SPECIAL TOPICS: BIOCHEMISTRY
(May be repeated) Prerequisite: Graduate status or permission of department. Recent developments in areas of biochemistry. 1-3 credits
720 ADVANCED BIOCHEMICAL TECHNIQUES
Prerequisite: 629, graduate status or permission of department. An advanced lecture course on physical techniques in biochemistry. Includes optical and hydrodynamic methods; radiation- analytical techniques, scattering and magnetic resonance spectroscopy. 3 credits
722 ENZYMATIC REACTIONS
Prerequisites: 501, 502, graduate status or permission of department. Mechanisms of enzyme catalyzed reactions, general aspects and specific examples for phosphoryl, acyl, glycosyl transfers, eliminations, oxidation/reduction, isomerization and rearrangements. Chemistry of cofactors and prosthetic groups. 3 credits
724 BIOINORGANIC CHEMISTRY
Prerequisites: 501 and 502, graduate status or permission of department. Survey of the structures and properties of metal ion complexes with amino acids, nucleotides, metabolites and macromolecules; metal ion metabolism; in metals in medicine. 3 credits
726 ADVANCED METALLOLOGY
Prerequisites: 501 and 502, graduate status or permission of department. Study of advanced principles in carbonylate, lipid and protein metabolism with emphasis placed on metabolic dysfunction. 3 credits
740 PHYSICAL ORGANIC CHEMISTRY
Prerequisites: 683, 684, graduate status or permission of department. An advanced treatment of the theory and mechanisms of organic chemistry: FMO theory, molecular mechanics, molecular vibrations, forces, wavefunctions, electronic transitions, linear free energy relationships. 3 credits
745 ADVANCED PHYSICAL ORGANIC CHEMISTRY
Prerequisites: 683, 684, graduate status or permission of department. An advanced treatment of organic functional group manipulations in the context of the total synthesis of natural products. 3 credits
### Classics

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- **501** EGYPTOLOGY I
- **504** ASSYRIOLOGY
- **509** WORKSHOP IN CLASSICS
- **592** READING AND RESEARCH IN THE ANCIENT NEAR EAST

### Anthropology

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- **510** EVOLUTION AND HUMAN BEHAVIOR
- **516** ANTHROPOLOGY OF SEX AND GENDER
- **520** THE ANTHROPOLOGY OF FOOD
- **555** CULTURE AND PERSONALITY
- **557** MEDICAL ANTHROPOLOGY
- **560** QUALITATIVE METHODS: BASIS OF ANTHROPOLOGICAL RESEARCH
- **563** SOCIAL ANTHROPOLOGY
- **572** SPECIAL TOPICS: ANTHROPOLOGY
- **591** WORKSHOP IN ECONOMICS
- **590** WORKSHOP IN CLASSICS

### Archaeology

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- **500** ARCHAEOLOGICAL THEORY
- **510** ARCHAEOPHYSICAL SURVEY
- **520** ARCHEOLOGY OF OHIO
- **540** ARCHEOLOGICAL LABORATORY METHODS
- **550** ARCHAEOLOGICAL FIELD SCHOOL

### Economics

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- **506** STATE AND LOCAL PUBLIC FINANCE
- **523** APPLIED GAME THEORY
- **527** ECONOMIC FORECASTING
- **530** LABOR MARKET AND SOCIAL POLICY
- **534** LABOR MARKET ANALYSIS AND EVALUATION
- **540** SPECIAL TOPICS: ECONOMICS
- **560** ECONOMICS OF DEVELOPING COUNTRIES
- **561** PRINCIPLES OF INTERNATIONAL ECONOMICS
- **575** DEVELOPMENT OF ECONOMIC THOUGHT
- **591** MONETARY AND BANCING POLICY
- **592** ECONOMICS OF THE PUBLIC SECTOR
- **593** MICROECONOMIC THEORY I
- **594** THE ECONOMICS OF REGULATION
- **595** APPLICATION OF LINEAR MODELS IN ECONOMIC ANALYSIS
- **596** APPLICATION IN RESEARCH METHODS
- **597** THEORY OF WAGES AND EMPLOYMENT
- **598** SEMINAR ON ECONOMIC GROWTH AND DEVELOPMENT
- **599** SEMINAR ON REGIONAL ECONOMIC ANALYSIS AND DEVELOPMENT
585 SCIENCE FICTION
A study of twentieth-century British and American science fiction, featuring primary forms of the science fiction story and the work of major authors.

589 SEMINAR IN ENGLISH
(3 credits
(May be repeated with different topics.) Special studies, and methods of literary research, in selected areas of English and American literature and language.

590 WORKSHOP IN ENGLISH
(2 credits
(May be repeated with different topics.) Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only.

592 INTERNSHIP IN ENGLISH
(3 credits
Prerequisite: permission of instructor. Graduate internship, including analytical reading and writing focused on liberal arts and career applications of the study of English. May count up to three credits.

600 TEACHING COLLEGE COMPOSITION PRACTICUM
(3 credits
Prerequisite: teaching assistantship. Orientation and weekly analysis of teaching rationale and practice, limited to teaching assistants in the Department of English. (Credits may not be used to meet M.A. in English degree requirements.)

615 SHAKESPEAREAN DRAMA
(3 credits
Concentrated study of several Shakespearean plays with emphasis on historical, critical and dramatic documents pertinent to development of Shakespeare's art.

616 SHAKESPEARE'S CONTEMPORARIES IN ENGLISH DRAMA
(2 credits
Readings in playwrights such as Webster, Kyd, Greene, Maitlove, Jonson, Beaufour, Fletcher, Webster, Middleton and Ford, and in contemporary writings relevant to theory and practice of drama.

618 MILTEN
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.

619 SEVENTEENTH-CENTURY ENGLISH LITERATURE
(3 credits
An examination of seventeenth-century British authors, including Donne, Jonson, Marvell, Milton, Bacon and Bunyan, and their canonical positions, their craft, and their literary criticism.

620 AUTOBIOGRAPHY AS LITERATURE
(3 credits
This course examines the genre of autobiography and memoir. A wide representation of auto-biographical texts will be the focus of discussion and analysis.

625 AUTOBIOGRAPHICAL WRITING
(3 credits
Using a workshop format, this course examines autobiographical essays written by class members. Attention will be given to the art and craft of writing autobiography.

627 KEATS AND HIS CONTEMPORARIES
Writings of John Keats, studied against background of romantic poetic theory and poetry of Keats's contemporaries.

643 SEMINAR IN JAMES
(3 credits
A study of Henry James' life and works. Primary emphasis will be on James' fiction, both long and short, early and late, but some attention will also be given to his literary criticism, travel pieces and plays.

645 POE AND HAWTHORNE
(3 credits
Substantial readings from each author: tales, novels, essays, letters, poetry. Also, representa-tive literary criticism about each author.

650 CULTURAL STUDIES: THEORY AND PRACTICE
(3 credits
This course explores the relationship between Cultural Studies and English Studies, examin-ing the impact of Cultural Studies on the practice of textual analysis.

656 LITERARY CRITICISM
(3 credits
Inquiry into nature and value of literature and problems of practical criticism as represented in major statements of ancient and modern critics.

670 MODERN LINGUISTICS
(3 credits
Introductory examination of methods and results of modern grammatical research in syntax, semantics, phonology and dialects. Goals include understanding of language variation and background preparation for linguistic studies of literature.

673 THEORIES OF COMPOSITION
(3 credits
Study of composition theories and research, with attention to their implications for writing and writing instruction. Particular focus on such topics as composing processes, invention, form, style, modes of writing, language varieties and evaluation of writing. Class sessions include discussion of readings and presentations.

674 RESEARCH METHODOLOGIES IN COMPOSITION
(3 credits
Research methodologies in composition and their application. Students will define research areas, summarize and evaluate work already done, and propose and complete semester research projects.

675 WRITING FOR MBAs
(3 credits
Emphasizes managerial writing. Writing tasks are presented as decision-making tools, and students develop strategies for messages to subordinates, analytical reports and messages to outside audiences.

676 THEORY AND TEACHING OF BASIC COMPOSITION
(3 credits
Reviews of current research and exploration of specific instructional methods for teaching basic composition.

679 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.

683 SEMINAR IN SATIRE
A study of satire from the middle ages through the late 20th Century, with particular attention to techniques of satiric attack, modes of comedy and irony and literary criticism.

685 SEMINAR IN ENGLISH
(3 credits
May be repeated with change of topical. Special topics within the general field of literature and language, usually focusing on major figures or themes.

691 BIBLIOGRAPHY AND LITERARY RESEARCH
(3 credits
Choosing research topics, typical problems in literary scholarship, assembling of scholarly material and bibliographic sources for literary research. Bibliographic exercises done, models of literary scholarship read.

699 MASTER’S THESIS
(4 credits
Original work in the field of literature and language and completion of graduate student's thesis. Prerequisite: permission of professor who directs and coordinates student's reading and research.
507 ADVANCED GEOGRAPHIC INFORMATION SYSTEMS 3 credits
Prerequisite: GIS or permission. Advanced instruction in the theory and application of geographic information systems (GIS) including hands-on experience with both raster and vector GIS. Laboratory.

509 ARCHAEOGEOGRAPHICAL SURVEY 3 credits
Prerequisite: Permission. Special study in superstructure geophysical survey techniques in an archaeological setting. Emphasis on the application of geophysical methods to archaeological research. Laboratory.

515 ENVIRONMENTAL PLANNING 3 credits
Special study of technical principles for decision-making in planning, with emphasis on soils, land use, and water quality issues. Data sources and methods of site evaluation.

520 URBAN GEOGRAPHY 3 credits
Special study of the internal structure of urban systems; interaction between cities; structuralist perspective on urban change; contemporary urban geographic problems; and urban and regional planning issues.

522 TRANSPORTATION SYSTEMS PLANNING 3 credits
Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problem and issues, elements of transportation planning.

532 LAND USE PLANNING LAW 3 credits
Advanced study of land use planning law with and presentation approaches to land use control in the United States and examine the political, economic, social and legal forces which have shaped existing land use regulations.

533 PRACTICAL APPROACHES TO PLANNING 3 credits
Role of geographic investigation in city, regional and resource planning.

537 PLANNING ANALYSIS AND PROJECTION METHODS 3 credits
Introduction to the analytic analytic techniques for small-area demographic and economic analysis and projection.

538 LAND USE PLANNING METHODS 3 credits
Applications of GIS and other computer-based tools to the preparation, implementation and evaluation of comprehensive land use plans.

539 HISTORY OF URBAN DESIGN AND PLANNING 3 credits
Origins of human settlements and planning from the perspective of urban design and related social-technical systems. Comparison of world regional and historical urban forms. Experience in “reading” settlements as visual landscapes.

540 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.

542 THEMATIC CARTOGRAPHY 3 credits
Principles of thematic mapping; Principles and techniques of thematic mapping. Examines principal thematic mapping techniques and means of presenting quantitative and qualitative data.

544 APPLICATIONS IN CARTOGRAPHY AND GEOGRAPHIC INFORMATION SYSTEMS 3 credits
Prerequisites: GIS or permission. Application of analytic and presentation techniques from cartography and geographic information systems to practical problems in geography and planning. Laboratory.

547 REMOTE SENSING 3 credits
Concepts, systems, and methods of applying aerial photography, satellite imagery, radar, and other remote-sensing data for analyzing geographic, geological, and other earth phenomena.

548 ADVANCED CARTOGRAPHY 3 credits
Prerequisite: GIS or permission. Advanced study of cartographic principles with an emphasis on the use of color for map design and production. (Laboratory).

549 ADVANCED REMOTE SENSING 3 credits
Prerequisite: 547 or permission. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies. (Laboratory).

550 DEVELOPMENT PLANNING 3 credits
Advanced study of planning concepts and techniques for developing countries, including growth and development planning, development agencies, regional inequities and alternative approaches.

551 RESEARCH METHODS IN GEOGRAPHY AND PLANNING 3 credits
Investigation of library and archive resources. Emphasis on development of professional writing skills.

558 SPATIAL ANALYSIS 3 credits
Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.

559 SPECIAL TOPICS IN GEOGRAPHY 3 credits
Prerequisite: 540 or permission. Selected topics of interest in geography.

560 WORKSHOP IN GEOGRAPHY 3 credits
May be repeated for a total of six credits. Group studies of special topics in geography.

595 SOIL AND WATER FIELD STUDIES 3 credits
Properties, origins and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, subsurface agriculture and field trips required.

596 FIELD RESEARCH METHODS 3 credits
Prerequisite: Eligibility to become competent in collecting, organizing and analysis of data while carrying out field research projects.

597 REGIONAL FIELD STUDIES 3 credits
Offer in-depth intensive study of geographic features of a region or regions through direct observation and travel using appropriate field study methods. Repeatable up to six credits.

600,1,2 SEMINAR 3 credits
May be repeated for a maximum of six credits each. Prerequisite: permission. Investigation and analysis of selected topics in particular fields of geography. Specialization indicated by section and portion of title.

639 PLANNING THEORY 3 credits
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.

633 COMPARATIVE PLANNING 3 credits
A survey of national, regional and local planning implementation measures in use in the development world. Particular attention will be given to the planning experiences of European nations and their impact on American planning theory and practice.

680 ADVANCED SPATIAL ANALYSIS 3 credits
Prerequisite: 580 or permission. Advanced concepts and methodologies in geographic research. Emphasis on quantitative regression in geographical analysis including multivariate procedures as factor, discriminant and economical analysis, and multidimensional scaling.

685 PLANNING INTERNSHIP 3 credits
Prerequisite: permission. Individual experience in selected planning agencies for supervised professional planning work. May be repeated but only 3 credits may be applied to total credit hours needed for degree requirements. Credit/Non-Credit.

687 HISTORY OF GEOGRAPHIC THOUGHT 3 credits
Critical review of major developments in geographic concepts from ancient times to present.

695 GRADUATE COLLOQUIUM (May be repeated for a maximum of four credits.) Lecture series on topics of interest in geography and planning, by academic and non-academic professionals for both faculty and students. Does not satisfy degree requirements. Credit/Non-Credit.

698 INDIVIDUAL READING AND RESEARCH 1-3 credits
Prerequisite: permission of instructor. Intensive investigation of selected topics under guidance of faculty member.

699 THESIS RESEARCH 1-6 credits
Independent and original work toward a thesis.

GEOLOGY 3370:

505 ARCHAEOGEOLOGY 3 credits (includes lab)
Prerequisites: Permission to the Geology master's program or permission. Provides background in geologic principles and techniques relevant to archaeologists. Topics include stratigraphy, absolute dating, locality assessment, zooarchaeology, taphonomy, and remote sensing. Required lab.

507 ARCHAEOGEOGRAPHICAL SURVEY 3 credits
Prerequisites: Admission to the Geology master's program or permission. Advanced instruction in subsurface geophysical survey techniques in archaeology. Emphasis on magnetic and electrical resistivity techniques, image processing and geological and archaeological interpretation.

510 REGIONAL GEOLOGY OF NORTH AMERICA 3 credits
Prerequisites: Admission to the Geology master's program or permission. 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: Admission to the Geology master's program or permission. Causes and effects of Pleistocene expansion of polar ice masses with emphasis on glacial deposits and world climatic changes.

521 COASTAL GEOLOGY 3 credits
Prerequisite: Permission to the Geology master's program or permission. Study of the origins and evolution of coasts and coastal deposits with particular attention paid to the interaction of marine processes with sediment and the development of associated sedimentary features.

525 PRINCIPLES OF SEDIMENTARY BASIN ANALYSIS 3 credits
Prerequisites: Admission to the Geology master's program or permission. Primarily the study of depositional systems, regional and global stratigraphic cycles, and sedimentation and plate tectonics.

532 OPTICAL MINERALOGY–INTRODUCTORY PETROGRAPHY 3 credits
Prerequisites: Admission to the Geology master's program or permission. Optical techniques for identification, characterization, and classification of minerals and rocks using the petrographic microscope. Laboratory.

533 ADVANCED PETROGRAPHY 3 credits
Prerequisite: Permission. Advanced study of igneous, metamorphic and sedimentary rocks as determined by microscopic studies of textures and mineral assemblages using thin section. Laboratory.

535 PETROLEUM GEOLOGY 3 credits
Prerequisite: Permission to the Geology master's program or permission. Natural occurrences of petroleum. Characteristics, origin, entrapment and exploration methods. Laboratory.

536 COAL GEOLOGY 3 credits
Prerequisites: Permission to the Geology master's program or permission. Origin, composition and occurrence of coal with emphasis on depositional environments, coalification processes, exploration, evaluation and exploitation. Laboratory.

537 ECONOMIC GEOLOGY 3 credits
Prerequisites: Permission to the Geology master's program or permission. Study of metallic and nonmetallic mineral deposits emphasizing paragenesis and exploration. Laboratory.

541 FUNDAMENTALS OF GEOPHYSICS 3 credits
Prerequisites: Permission to the Geology master's program or permission. Fundamental concepts in solid earth geophysics, planetary physics, geodesy, and geomagnetism. Contributions of geophysics to recent major developments in geoscience.

544 ENVIRONMENTAL MAGNETISM 3 credits
Prerequisites: Permission to the Geology master's program or permission. Introduction to the theory and methods of environmental magnetism and the application of environmental magnetism to interpreting sedimentary deposits.

546 EXPLORATION GEOPHYSICS 3 credits
Prerequisites: Permission to the Geology master's program or permission. Basic principles and techniques of geophysical exploration with emphasis on gravimetric, magnetic, seismic and electrical methods and application to geological problems. Laboratory.

549 BOREHOLE GEOPHYSICS 3 credits
Prerequisites: Permission to the Geology master's program or permission. Basic principles and techniques of geophysical well logging with emphasis on electrical, radioactive and sonic measures and their quantitative evaluation. Applications to oil, gas and groundwater exploration. Laboratory.

550 ADVANCED STRUCTURAL GEOLOGY 3 credits
Prerequisite: Permission to the Geology master's program or permission. Fundamental and advanced concepts of structural geology with emphasis on current and developing concepts. Laboratory.

562 ADVANCED PALEONTOLOGY 3 credits
Prerequisite: Permission to the Geology master's program or permission. Provides advanced training in the study of major types of fossil. Topics will include paleoenvironmental analysis, biostratigraphic correlation, fossil preservation, diversification and extinction patterns and geological signs of fossils.

563 MICROPALeONTOLOGY 3 credits
Prerequisites: Permission to the Geology master's program or permission. Introduction to techniques of micropaleontology exploration and paleoecology of selected microfossil groups. Laboratory.

570 GEOCHEMISTRY 3 credits
Prerequisites: Permission to the Geology master's program or permission. Application of chemical principles to the study of geologic processes. Laboratory.

572 STABLE ISOTOPE GEOCHEMISTRY 3 credits
Prerequisites: Permission to the Geology master's program or permission. Application of stable isotope geochemistry to the study of the hydrologic and carbon cycles, modern sedimentary environments, and the interpretation of sedimentary rocks.
525 THE REFORMATION 3 credits
Europe in 16th Century; its religious, cultural, political and diplomatic development, with special emphasis on Protestantism, Catholic humanism and the Reformation.

529 EUROPE IN THE FRENCH REVOLUTIONARY ERA, 1789-1815 3 credits
Development of Revolution; Napoleon's regime and satelites.

538 NAZI GERMANY 3 credits
This course covers the social, economic, and political history of Germany from World War I to 1945 with emphasis on the Third Reich.

540 TUDOR AND STUART BRITAIN, 1485-1714 3 credits
An examination of the development of, and increasing links between the British kingdoms in the early modern period, with emphasis on culture, politics, and religion.

543 CHURCHILL'S ENGLAND 2 credits
An examination of the changes that Britain experienced during the life of Winston Churchill, 1874-1965. Emphasis is on Churchill's political, and social policies.

551 COLONIAL AMERICAN HISTORY 3 credits
This course covers the history of colonial America from the first European contact in the American colonies to the onset of the American Revolution.

552 THE AMERICAN REVOLUTIONARY ERA: POLITICAL, MILITARY, AND CONSTITUTIONAL ASPECTS 2 credits
The struggle for the rights of the American people and independence, the impact of the American Revolution on the rise of the American republic, and progressivism movement in the first half of the 19th century.

553 AGE OF JEFFERSON AND JACKSON, 1800-1850 3 credits
The evolution of the republic in its formative stages from Jefferson through Jackson to the Compromise of 1850. Emphasis upon political, social, intellectual and constitutional developments.

554 THE CIVIL WAR AND RECONSTRUCTION, 1861-1877 4 credits
Sectionalism, slavery and the causes of the Civil War; wartime activities of the Union and Confederate forces: leading personalities; problems of reconstruction and the new Union.

555 THE ORIGINS OF MODERN AMERICA, 1877-1917 3 credits
United States from the Reconstruction Era to World War I (1877-1920); emphasis on political developments, the rise of an industrialized urban society, the popular culture, and social movements.

565 AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945 3 credits
World War I and Versailles; the 1920s, the Great Depression and the New Deal; World War II.

575 THE UNITED STATES SINCE 1945 3 credits
Nuclear age, cold war, foreign and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.

576 CENTRAL AMERICA AND THE CARIBBEAN 3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on the centuries of contact.

577 MEXICO 3 credits
War and society in Europe, America and beyond from ancient world to present with special emphasis on Mexico's role in the rise of American imperialism.

578 THE COLD WAR AND THE AMERICAN EXPERIENCE 3 credits
The冷戰和美國經驗

581 ANALYTICAL METHODS IN GEOLOGY 2 credits
Prerequisite must be a Geology Department graduate student or senior major in geology, or have permission of instructor. Methods for finding, gaining, analyzing, and evaluating geologic information. Emphasis on finding data sources (including electronic), creating valid data, visualizing data and presenting data.

585 INDIVIDUAL READINGS IN GEOLOGY 1-4 credits
Prerequisite: permission of graduate advisor required. May be repeated for a total of 8 credits; credits may not be used to meet graduate or major requirements in geology. May be used for elective credit only.

590 WORKSHOP 1-3 credits
May be repeated. Group studies of special topics in geology. May not be used to meet undergraduate or graduate major requirements in geology. May be used for elective credit only.

593 GEOLOGY FIELD CAMP I 3 credits
Prerequisite: Admission to the Geology master's program or permission. Introduction to collection and interpretation of field data and construction of geological maps.

594 GEOLOGY FIELD CAMP II 3 credits
Prerequisite: Admission to the Geology master's program or permission. Advanced techniques and methods of field geology necessary for detailed geological maps and interpretation.

631 ROCKS AND MINERALS 4 credits
Prerequisite: Admission to the Geology master's program or permission. Intensive course integrating crystallography, mineralogy and petrology for the science teacher and graduate student in geology other than geology. Laboratory.

639 NUCLEAR GEOLOGY 3 credits
(Two hour lecture, three hour laboratory) Prerequisites: minimum of seven credits in chemistry, or six credits in physics, eight credits in calculus and eight credits in geology or permission. Discussion of nuclear and radioactive decay processes; nuclear techniques in geology.

643 GEOSTATISTICS 3 credits
Prerequisite: Admission to the Geology master's program or permission. Application of statistical methods to geology and geophysics including tests of hypothesis, trend surface analysis, analysis of variance, nonparametric statistics and time series analysis.

648 GLOBAL TECTONICS 3 credits
Prerequisite: Admission to the Geology master's program or permission. Introduction to the study of the development of the crust and its interaction with plate tectonics and associated erosional features.

661 GEOLOGIC RECORD OF PAST GLOBAL CHANGE 3 credits
Prerequisite: equivalent of baccalaureate degree in geology or permission of instructor. Study of the geologic record of past global climate and environmental change from geochemical, paleoecological, sedimentological and other geological evidence.

674 ADVANCED GROUNDWATER HYDROLOGY 3 credits
Prerequisite: Admission to the Geology master's program or permission. Study of water table and artesian aquifers under steady and nonsteady state conditions. Collection and evaluation of field data with regard to theory. Laboratory and field work.

676 SEMINAR IN GEOLOGY 2 credits
May be repeated for a total of six credits) Selected topics with reference material from original sources.

687 SPECIAL TOPICS IN GEOLOGY 1-3 credits
Prerequisite: permission of instructor. May be repeated for a total of six credits) Selected topics with reference material from original sources.

688 GEOLOGY TEACHING PRACTICUM 1-3 credits
Corequisite: Graduate standing. Training and experience in college teaching of geology under supervision of experienced faculty. May be repeated for a maximum of 8 credits. Credit may not be used to meet degree requirements. Credit/No credit.

695 ADVANCED FIELD STUDIES 3 credits
Prerequisite: Admission to the Geology master's program or permission. Field trip course emphasizing phases of geological study not readily studied in Ohio. Includes pretrip preparations, field observations and data gathering, post-trip examination and/or written report. Student will bear trip expenses.

696 GEOLOGY COLLOQUIUM 1 credit
Lecture on current topics in geological sciences and thesis proposals and defenses by graduate students. May be repeated. Does not satisfy degree requirements.

698 GRADUATE RESEARCH PROBLEMS 1-3 credits
Prerequisite: Admission to the Geology master's program or permission. May be repeated for a total of six credits) Prerequisite: permission of instructor. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor.

699 MASTER'S THESIS 1-6 credits
Indepth and original investigation. Must be successfully completed, reported written and defended before a committee.

525 THE REFORMATION 3 credits
Europe in the 16th Century; its religious, cultural, political and diplomatic development, with special emphasis on the Protestant Reformation, Napoleon’s regime and satellite states.

529 EUROPE IN THE FRENCH REVOLUTIONARY ERA, 1789-1815 3 credits
Development of the Revolution; Napoleon’s regime and satellite states.

538 NAZI GERMANY 3 credits
This course covers the social, economic, and political history of Germany from World War I to 1945 with emphasis on the Third Reich.

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Sectionalism, slavery and the causes of the Civil War; wartime activities of the Union and Confederate forces: leading personalities; problems of reconstruction and the new Union.

555 THE ORIGINS OF MODERN AMERICA, 1877-1917 3 credits
United States from the Reconstruction Era to World War I (1877-1920); emphasis on political developments, the rise of an industrialized urban society, the popular culture, and social movements.

565 AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945 3 credits
World War I and Versailles; the 1920s, the Great Depression and the New Deal; World War II.

575 THE UNITED STATES SINCE 1945 3 credits
Nuclear age, cold war, foreign and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.

576 CENTRAL AMERICA AND THE CARIBBEAN 3 credits
Selected aspects of the histories of Central America and Caribbean countries with emphasis on the centuries of contact.

582 WAR AND WESTERN CIVILIZATION 3 credits
War and society in Europe, America and beyond from ancient world to present with special emphasis on the period since 1940.

584 HISTORY MUSEUMS AND ARCHIVES 3 credits
This course will focus on the work of history museums, historical societies and historic house museums, and archives.

585 HISTORY, COMMUNITIES, AND MEMORY 3 credits
Course examines the interactions between the work of academic historians and the public in areas such as local history, monuments, oral history, film, and the internet.

587 SCIENCE AND TECHNOLOGY IN U.S. HISTORY 3 credits
This course examines the development of science and technology in U.S. history and its resulting social, economic, and political effects.

588 SPECIAL STUDIES IN HISTORY 3 credits
Includes experimental and interdisciplinary studies, as well as those subjects that are not listed in this Graduate Bulletin. See departmental office for information on particular offerings.

590 WORKSHOP IN HISTORY 1-3 credits
May be repeated. Group studies of special topics pertaining to history. May be used for elective credit only. May not be used to meet undergraduate or graduate major requirements in history.

610 GRADUATE READING SEMINAR: COMPARATIVE STUDIES IN WORLD CIVILIZATION 3 credits
Comparative historiography on world civilizations: East, South Asia, Middle East, Africa, and the Americas. Emphasis on key themes; kingship, empire colonisation, nationalisation, postcolonialism.
513 THEORY OF NUMBERS 3 credits
Prerequisite: Departmental permission. Euclidean algorithm, unique factorization theorems, congruences, primitive roots, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.

515 COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: Departmental permission. Introduction to basic ideas and techniques of mathematical combinatorics, properties of structure of systems.

520 MATHEMATICAL TECHNOLOGY AND COMMUNICATION 3 credits
Prerequisite: Departmental permission. Graphical, numerical, and algebraic computation with applications using a variety of mathematical software and hardware: symbolic manipulators, dynamic geometry software, programs, scripts and web browsers.

521, 2 ADVANCED CALCULUS I and II 3 credits each
Prerequisites: Departmental permission. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, and convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.

525 COMPLEX VARIABLES 3 credits
Prerequisite: Departmental permission. Complex variables: elementary functions, differentiation and analytic functions, Cauchy's theorem and Cauchy's theorem; power series and Laurent series; residue theorem; applications such as conformal mappings, inversion of integral transform.

527 APPLIED NUMERICAL METHODS I 3 credits
Prerequisite: Departmental permission. Numerical methods in polynomial interpolation, conditioning, numerical integration, and numerical linear algebra.

528 APPLIED NUMERICAL METHODS II 3 credits
Prerequisite: Departmental permission. Numerical methods in the solution of ordinary and partial differential equations. Numerical differentiation, Runge-Kutta methods, and iterative methods for ODEs, finite differences for PDEs.

529 NUMERICAL SOLUTIONS FOR ORDINARY DIFFERENTIAL EQUATIONS 3 credits

530 NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 527 or departmental permission. Writing in full or departmental permission. 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 4 credits
Prerequisite: Departmental permission. The classical initial value and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.

535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: Departmental permission. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.

536 MATHEMATICAL MODELS 3 credits
Prerequisite: Departmental permission. Development and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.

538 ADVANCED ENGINEERING MATHEMATICS I 3 credits
Prerequisite: Departmental permission. Matrices, eigenvalue problems, systems of ODEs, vector analysis, complex variables.

539 ADVANCED ENGINEERING MATHEMATICS II 3 credits
Prerequisite: Departmental permission. Special functions, Fourier series and transforms, PDEs.

541 CONCEPTS IN GEOMETRY 4 credits
Prerequisite: Departmental permission. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.

545 INTRODUCTION TO TOPOLOGY 3 credits
Prerequisite: Departmental permission. Introduction to topological spaces and mapping, cardinality, homeomorphism, connected spaces, metric spaces.

589 TOPICS IN MATHEMATICS 1-4 credits
(May be repeated for a total of 12 credits) Prerequisite: Permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.

591 WORKSHOP IN MATHEMATICS 1-4 credits
(May be repeated) Group studies of special topics in mathematics and applied mathematics. May not be used to meet undergraduate or graduate credit requirements in mathematics and statistics. May be used for elective credit only.

610 TOPICS IN ALGEBRA 3 credits
Prerequisite: 522 or departmental permission. Advanced study of selected topics in some of the following areas: semigroups, groups, rings, modules and fields.

621 REAL ANALYSIS 3 credits
Prerequisite: 522 or departmental permission. In-depth study of real analysis - metric spaces, normed vector spaces, integration theory, Hilbert spaces.

622 MEASURE THEORY 3 credits
Prerequisite: 621. Measure, measurable function, Lebesgue integral, convergence theorems, Lp-spaces, Radon-Nikodym theorem.

625 ANALYTIC FUNCTION THEORY 3 credits
Prerequisite: 522 or departmental permission. Complex number system, holomorphic functions, continuity, differentiability, power series complex integration, residue theory, singularities, analytic continuation, asymptotic expansion.

627 ADVANCED NUMERICAL ANALYSIS I 3 credits
Prerequisite: 522 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Error propagation; theoretical analysis of numerical methods in interpolation, integration, and ordinary differential equations.

628 ADVANCED NUMERICAL ANALYSIS II 3 credits
Prerequisite: 522 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Theoretical analysis of numerical methods in linear algebra.

631 CALCULUS OF VARIATIONS 3 credits
Prerequisite: Departmental permission. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, the maximality principle, linear time-asymptotic problems, the connective between classical theory and the maximality principle.

632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 522 or departmental 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.
633.4 METHODS OF APPLIED MATHEMATICS I AND II 3 credits each
Prerequisite: 521 or departmental permission. Methods of applied mathematics concentrating on analytic methods for solving differential and integral equations—applied complex analysis, integral transforms, partial differential equations, and integral equations.

635 OPTIMIZATION 3 credits
Prerequisite: 522 or departmental permission. Unconstrained and constrained optimization theory and methods in applied problems.

636 ADVANCED COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: Departmental permission. Theory and techniques of combinatorics as applied to network problems and graph theoretic problems.

638 THEORY AND APPLICATION OF WAVELETS 3 credits
Prerequisite: permission of instructor. Theory of wavelets and applications to signal and image analysis. Topics include wavelet expansions, filter bands, discrete and continuous wavelet transforms, wavelet packets, and applications.

689 ADVANCED TOPICS IN MATHEMATICS 3 credits (May be repeated for a total of four credits) Prerequisite: permission of advisor. Seminar-type discussion on topics in mathematics leading to supervised research project. No more than 2 credits apply to major requirements.

682 SEMINAR IN MATHEMATICS 1-3 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 apply to major requirements.

695 PRACTICUM IN MATHEMATICS 3 credits (May be repeated) Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of mathematical sciences. May not be used to meet degree requirements. Credit/No credit.

697 INDIVIDUAL READING 1-2 credits (May be repeated for a total of four credits) Prerequisite: graduate standing and permission. Directed studies in mathematics at graduate level under guidance of selected faculty member.

698 MASTER’S RESEARCH 1-6 credits (May be repeated) Prerequisite: permission of advisor. Research in suitable topics in mathematics and the application of mathematics culminating in a research paper. No more than 2 credits applicable to major requirements.

699 MASTER’S THESIS 1-3 credits (May be repeated for a total of four credits) Prerequisite: permission. Properly qualified graduate students with a minimum of 24 credits (30 credits for master’s degree may obtain four credits for research experience which culminates in presentation of faculty-supervised thesis).

721.2 FUNCTIONAL ANALYSIS II 3 credits each Prerequisites: 510 and 562 or departmental permission. 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: Departmental permission. Basic iterative methods, Matrix Properties and Concepts, Linear and Nonlinear equation solver, Semi-iterative and conjugate-gradient methods.

730 ADVANCED NUMERICAL SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS 3 credits Prerequisites: 512 and 532, or 626, or departmental permission. Derivation, analysis, and implementation of different finite difference and variational-based methods for the solution of partial differential equations and systems of differential equations.

732 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS II 3 credits Prerequisites: 522 and 526, or 621, or departmental permission. Well-posedness of elliptic, hyperbolic and parabolic problems. Variational Methods for Elliptic problems, Conservation Laws and numerical methods, potential theory and integral equations.

733A ASYMPTOTIC METHODS AND NONLINEAR ANALYSIS I AND II 3 credits each Prerequisites: 602 or equivalent. Survey of asymptotic and perturbation methods as applied to integrals and differential equations. Topics: bifurcation and stability with applications from physics and engineering.

735 DYNAMICAL SYSTEMS 3 credits Prerequisite: 522 or departmental permission. The study of mathematical models of systems which evolve over time. An introduction to maps and applications to ordinary differential equations.

3460: COMPUTER SCIENCE

501 FUNDAMENTALS OF DATA STRUCTURES 3 credits Prerequisite: Program 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. (May not be used to meet computer science requirement.)

506 INTRODUCTION TO C AND UNIX 3 credits Prerequisite: Programming experience. C language programming. UNIX shell programming, file system, system calls, interprocess communication. (May not be used to meet computer science requirements.)

508 WINDOWS PROGRAMMING 3 credits Prerequisite: Admission to Computer Science master’s program or permission. An in-depth study of the architecture of Windows operating systems, integrated development environment, event-driven programming, graphical user interface design, using object libraries, component model object, model linking and debugging, and client-server design.

518 INTRODUCTION TO DISCRETE STRUCTURES 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Introduction to algebraic structures of particular use in computer science. Topics include algebras, lattices, and flow chart language, graphs and digraphs, trees, lattices, codes. (May not be used to meet computer science master’s degree requirements.)

521 INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Object-oriented design, analysis, and programming using different development models. Comparison with other programming paradigms.

526 OPERATING SYSTEMS 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Introduction to various types of operating systems: batch processing systems, multi-processing systems and operating systems and interfacing processing systems: storage management; process and resource control; deadlock problems. Course is independent of any particular operating system. (May not be used to meet computer science master’s degree requirements.)

528 UNIX SYSTEM PROGRAMMING 3 credits Prerequisite: Admission to Computer Science master’s program or permission. An in-depth study of the UNIX operating system. Shell programming. Process management, processor management, storage management, scheduling algorithms, resource protection, and system programming.

530 THEORY OF PROGRAMMING LANGUAGES 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Advanced concepts of compiling programming languages and their applications, formal definitions of programming languages, Baxus Normal Form, semantics. Alternative programming paradigms including functional programming. (May not be used to meet computer science master’s degree requirements.)

535 ANALYSIS OF ALGORITHMS 3 credits Prerequisites: Admission to Computer Science master’s program or permission. Design and analysis of efficient algorithms for random access machines, derivation of pattern classification algorithms.

540 COMPILER DESIGN 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Techniques used in writing and modifying compilers including translation, leading, executing, symbol tables and storage allocation; composition of simple expressions and statements. Organization of a compiler for handling lexical, syntax, semantic, type-checking, object code generation, error diagnosis, and code optimization. Use of compiler writing languages and tool-building. The course does not meet computer science master’s degree requirements.

545 INTRODUCTION TO BIOINFORMATICS 3 credits Prerequisites: Admission to Computer Science master’s program or permission. Introduction to major methodologies in bioinformatics. Topics include concepts of molecular genetics, biotechnology data-bases, database searching, sequence alignments, phylogenetic trees, structure prediction, and microarray data analysis.

546 INTRODUCTION TO BIOINFORMATICS LABORATORY 1 credit Prerequisite: Admission to the Computer Science master’s program, or permission. Corequisite: 545. Laboratory course investigating bioinformatics tools currently available for biological database searching, sequence alignments, phylogenetic tree construction, protein structure prediction, and microarray analysis.

554 DATA COMMUNICATIONS AND COMPUTER NETWORKS 3 credits Prerequisites: Admission to Computer Science master’s program or permission. ISO/OSI, TCP/IP, SNA data switching, protocols, flow and error control, routing, topology, Network trends, network taxonomies, and socket-based programming.

557 COMPUTER GRAPHICS 3 credits Prerequisites: Admission to Computer Science master’s program or permission. Topics in vector and raster graphics, interactive graphics languages, scan conversion, clipping, geometric transformation, projection, shading, animation, and virtual reality.

560 ARTIFICIAL INTELLIGENCE AND HEURISTIC PROGRAMMING 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Study of various programs which have displayed some intelligent behavior. Exploration of level at which computers can display intelligence.

565 COMPUTER ARCHITECTURE 3 credits Prerequisites: Admission to Computer Science master’s program or permission. An introduction to the hardware organization of the computer at the register, processor, and system levels. An in-depth study of the architecture of a particular computer systems family. (May not be used to meet computer science master’s degree requirements.)

567 MICROPROCESSOR PROGRAMMING AND INTERFACING 3 credits Prerequisites: Admission to Computer Science master’s program or permission. Detailed study of a particular microprocessor architecture and instruction set. Standard device interface components. Real time programming concepts.

570 AUTOMATA, COMPUTABILITY AND FORMAL LANGUAGES 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Treatment of theory of formal languages and their relation to automata. Topics include description of languages, regular context-free and context-sensitive grammar, finite, pushdown and linear bounded automata; turning machines; closure properties, computational complexity, stack automata and decidability.

573 DATABASE MANAGEMENT 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Fundamentals of database organization, data manipulations and representation, data integrity, privacy.

577 INTRODUCTION TO PARALLEL PROCESSING 3 credits Prerequisites: Admission to Computer Science master’s program or permission. Commercial processors: past and present. Parallel languages, models of parallel computation. Emphasis on parallel algorithm design and performance evaluation. A broad study of parallel paradigms and their relation to real world applications.

580 INTRODUCTION TO SOFTWARE ENGINEERING AND FORMAL METHODS 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Introduction to formal software specification, validation, introduction of methodologies and tools of design, development, validation, and maintenance.

589 TOPICS IN COMPUTER SCIENCE 3 credits (May be repeated) Prerequisite: Permission of instructor. Selected topics in computer science at an advanced level.

591 WORKSHOP IN COMPUTER SCIENCE 1-3 credits Group studies of special topics in computer science. (May not be used to meet computer science master’s degree requirements.)

597 INDIVIDUAL STUDY IN COMPUTER SCIENCE 1-3 credits (May be repeated) Prerequisite: permission. Directed studies designed as introduction to research problems under guidance of designated faculty member.

626 ADVANCED OPERATING SYSTEMS 3 credits Prerequisites: Admission to Computer Science master’s program or permission. Advanced topics in operating system design: synchronization mechanisms, performance evaluation, security, distributed operating systems.

630 ADVANCED THEORY OF PROGRAMMING LANGUAGES 3 credits Prerequisites: Admission to Computer Science master’s program or permission. In-depth study of various issues in the design and implementation of programming languages, such as formal type systems, operational and other semantics, and verification.

635 ADVANCED ALGORITHMS AND COMPLEXITY THEORY 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Advanced graph algorithms, matrix multiplication, fast Fourier transform, lower bound theory, complexity hierarchies, NP-complete and intractable problems, approximation techniques.

640 ADVANCED COMPILER DESIGN AND CONSTRUCTION 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Continuation of 540. Theory of LL(1), LRR and LR(k) parsing, compiler writing tools and environments, code optimization, implementation of advanced language features. Major programming project required.

655 COMPUTER NETWORKS AND DISTRIBUTED PROCESSING 3 credits Prerequisite: Admission to Computer Science master’s program or permission. Interconnection and networking technologies, protocol layering models, end-to-end and stream transport services, client-server paradigm, principles and protocols of interconnected networks operating as unified systems, and TCP/IP technology.
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<tr>
<th>Course Code</th>
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<td>APPLIED REGRESSION AND ANOVA</td>
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<td>STATISTICAL METHODS</td>
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<td>567</td>
<td>ADVANCED COMPUTER GRAPHICS</td>
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<td>VISUALIZATION</td>
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<td>569</td>
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<td>572</td>
<td>ACTUARIAL SCIENCE II</td>
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<td>573</td>
<td>FOUNDATIONS OF STATISTICAL QUALITY CONTROL</td>
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<td>576</td>
<td>DISCUSSION SURVEY</td>
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<td>578</td>
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<td>579</td>
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<td>581</td>
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**Statistics Courses**

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<td>654</td>
<td>PRACTICUM IN STATISTICS AND MATHEMATICS</td>
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<td>655</td>
<td>STATISTICS MASTERS PAPER</td>
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<td>656</td>
<td>666 NONPARAMETRIC STATISTICS-METHODS</td>
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<td>657</td>
<td>ADVANCED MATHEMATICAL STATISTICS</td>
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<td>664 STATISTICS FOR THE HEALTH SCIENCES</td>
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<td>659</td>
<td>667 ADVANCED COMPUTER GRAPHICS for the Health Sciences</td>
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<td>668 MULTIVARIATE STATISTICAL METHODS</td>
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<td>669 RESPONSE SURFACE METHODOLOGY</td>
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<td>663</td>
<td>671 INDIVIDUAL STUDY IN COMPUTER SCIENCE</td>
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<td>672 FACTOR ANALYSIS</td>
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<td>674 RELIABILITY MODELS</td>
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<td>669</td>
<td>677 PRACTICUM IN STATISTICS AND MATHEMATICS</td>
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**Graduate Courses**

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<td>95</td>
<td>STATISTICS AND MATHEMATICS</td>
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<td>96</td>
<td>STATISTICS MASTERS PAPER</td>
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<tr>
<td>97</td>
<td>STATISTICS MASTERS PAPER</td>
<td>1-2</td>
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**Notes:**
- Prerequisites and descriptions for each course are included.
- Course codes and titles are listed in a table format for easier reading.
- Credits are indicated for each course.
- Some courses may have specific requirements or limitations.
- Topics covered include probability distributions, sampling, and statistical inference.
- Courses are offered in a range of credits, from 1 to 6 credits, depending on the course.
504 INTRODUCTION TO SPANISH LINGUISTICS 4 credits
Prerequisites: Graduate status or permission of department. This course provides a detailed overview of the structure of Spanish and areas of inquiry within linguistics: phonetics, phonology, morphology, syntax, semantics, and applied fields.

505 SPANISH LINGUISTICS: PHONOLOGY 4 credits
Prerequisites: Graduate status or permission of department. 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
Prerequisites: Graduate status or permission of department. Descriptive study of Spanish syntax, introduction to theories of grammar; overview of Spanish semantics and pragmatics. Conducted in Spanish.

507 SURVEY OF HISPANIC LITERATURE: SPAIN 4 credits
Prerequisites: Graduate status or permission of department. Historical overview of representative works and literary movements in Spain. Does not count toward M.A. in Spanish. Conducted in Spanish.

508 SURVEY OF HISPANIC LITERATURE: SPANISH AMERICA 4 credits
Prerequisites: Graduate status or permission of department. Historical overview of representative works and literary movements in Spanish America. Does not count toward M.A. in Spanish. Conducted in Spanish.

509 CULTURAL MANIFESTATION IN MEDIEVAL AND RENAISSANCE SPAIN 4 credits
Prerequisites: Graduate status or permission of department. Comparative study of representative artistic and literary works of the Medieval and Renaissance periods. Conducted in Spanish.

510 SPANISH APPLIED LINGUISTICS 4 credits
Prerequisites: Graduate status or permission of department. This course discusses current theories of second language acquisition and their implications for the learning of problemmatic Spanish structures.

511 SPAIN DURING THE BAROQUE PERIOD 4 credits
Prerequisites: Graduate status or permission of department. A comprehensive study of the major literary and artistic movements in Spain during the 17th century. Conducted in Spanish.

512 CERVANTES: DON QUIJOTE 4 credits
Prerequisites: Graduate status or permission of department. Reading and analysis of Don Quijote as the first modern novel in the historical context of Renaissance and Baroque esthetics. Conducted in Spanish.

513 THE DON JUAN MYTH IN SPANISH CULTURE 4 credits
Prerequisites: Graduate status or permission of department. Study of the evolution of the Don Juan myth from its origins to its latest versions in the 20th century.

514 CULTURAL POLITICS IN THE RIVER PLATE 4 credits
Prerequisites: Graduate status or permission of department. This course will examine the military dictatorships of the seventies and eighties in Argentina and Uruguay by looking at how these regimes affect culture.

515 THE AGE OF REASON AND THE ROMANTIC REBELLION IN SPAIN 4 credits
Prerequisites: Graduate status or permission of department. Study of the Enlightenment and the Romantic movement as reflected in the works of the major artists and writers of these periods. Conducted in Spanish.

516 REPRESENTING REALITY IN 19TH CENTURY SPAIN 4 credits
Prerequisites: Graduate status or permission of department. A comparative study of major literary and artistic movements in Spain from Realism to Modernism. Conducted in Spanish.

517 20TH CENTURY SPANISH LITERATURE: THE AVENTURERS IN LITERATURE AND ART 4 credits
Prerequisites: Graduate status or permission of department. 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
Prerequisites: Graduate status or permission of department. Study of the impact of the Civil War on Spanish culture.

522 SPECIAL TOPICS IN SPECIALIZED LANGUAGE SKILLS OR CULTURE OR LITERATURE 4 credits
Prerequisites: Graduate status or permission of department. May be repeated. Development of specialized or literary works or culture not studied in other courses.

523 SPANISH-AMERICAN LITERATURE BEFORE 1900 4 credits
Prerequisites: Graduate status or permission of department. 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 20TH CENTURY SPANISH-AMERICA 4 credits
Prerequisites: Graduate status or permission of department. May be repeated. Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.

525 20TH CENTURY SPANISH-AMERICAN NOVEL 4 credits
Prerequisites: Graduate status or permission of department. Traces the diverse representations of indigenous cultures in literature. Takes into account the interactive forces of class, gender, race, and ethnic difference. Conducted in Spanish.

526 20TH CENTURY SPANISH-AMERICAN LITERATURE 4 credits
Prerequisites: Graduate status or permission of department. Reading and discussion of representative contemporary Latin American novels. Conducted in Spanish.

527 LATINO CULTURES IN THE USA 4 credits
Prerequisites: Graduate status or permission of department. Inquiry into the Latino experience of displacement and marginality through the analysis of cultural manifestations in the USA. Conducted in Spanish.

530 WOMEN IN 20TH CENTURY HISPANIC LITERATURE 4 credits
Prerequisites: Graduate status or permission of department. 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: Graduate status or permission of department. Study of society, customs, history, art, music, etc. of Spain, from a Hispanic perspective. Does not count toward the MA in Spanish. Conducted in Spanish.

532 HISPANIC CULTURE: SPANISH AMERICA 4 credits
Prerequisites: Graduate status or permission of department. Overview and historical survey of Spanish American civilization and culture. Does not count toward the M.A. in Spanish. Conducted in Spanish.

661 SPANISH TEACHING PRACTICUM 2 credits
Prerequisites: Graduate status or permission of department. Orientation and practice of particular aspects of teaching Spanish language and culture. Student teaching experiences are periodically reviewed and evaluated. These credits may not be applied toward degree requirements.

6923 INDIVIDUAL READINGS IN SPANISH 4 credits
Prerequisites: Graduate status or permission of department. May be repeated. Conducted in Spanish.
PHILOSOPHY 3600:

518 PLATO 3 credits
Prerequisite: 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.

519 AQUINAS 3 credits
Prerequisite: Permission of instructor. An in depth examination of the philosophical works of St. Thomas Aquinas covering his contributions in metaphysics, epistemology, ethics, political theory, and philosophical theology.

520 20TH CENTURY ANALYTIC PHILOSOPHY 3 credits
Prerequisite: Permission of instructor. Study of ideal and ordinary language movements in 20th Century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Ryle, and Austin.

522 EXISTENTIALISM 3 credits
Prerequisite: Permission of instructor. In-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tilkich and other existentialists with their concern for the human condition.

526 PHENOMENOLOGY 3 credits
Prerequisite: Permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought.

532 KANT 3 credits
Prerequisite: Permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of mankind and ethics.

534 KANT 3 credits
Prerequisite: 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: Permission of instructor. Nature of scientific inquiry, types of explanations, laws and causality, theoretical concepts and reality. Also considers critics of hypothetico-deductive view of science, e.g., Hanson and Kuhn.

564 PHILOSOPHY OF SCIENCE 3 credits
Prerequisite: Permission of instructor. Nature of scientific inquiry, types of explanations, laws and causality, theoretical concepts and reality. Also considers critics of hypothetico-deductive view of science, e.g., Hanson and Kuhn.

571 METAPhilosophy 3 credits
Prerequisite: Permission of instructor. Theories about ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources.

580 SEMINAR (May be repeated with change of topic) Prerequisite: Permission of instructor. Varying philosophical topics not covered in regular course offerings.

581 PHILOSOPHY OF LANGUAGE 3 credits
Prerequisite: Permission of instructor. Contemporary philosophies about nature of language and its relation to reality and human thinking. Includes discussion of views of linguists such as Chomsky.

PHYSICS 3650:

501 EVERYDAY PHYSICS 4 credits
Prerequisite: Open to the physics master's program or permission. College-level physics content for future teachers. Inquiry, discovery, activities, discussion, and experimental learning takes place in a laboratory/embodied lecture environment.

506 PHYSICAL OPTICS 3 credits
Prerequisite: Admission to the physics master's program or permission. Propagation, reflection, and refraction of electromagnetic waves, superposition, polarization, interference and interference patterns, Fresnel and Fraunhofer diffraction, Fourier optics, coherence theory, and quantum optics.

531 MECHANICS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Mechanics of one-dimensional and intermediate motion. Newtonian mechanics, motion of a particle in one dimension, central field problem, system of particles, conservation laws, rigid bodies, gravitation.

532 MECHANICS II 3 credits
Prerequisite: Admission to the physics master's program or permission. Advanced mechanics at the senior or beginning graduate level, moving coordinate systems, mechanics of continuous media. Lagrange’s equations, tensor algebra and stress analysis, rotation or rigid bodies, vibration theory.

536 ELECTROMAGNETISM I 3 credits
Prerequisite: Admission to the physics master's program or permission. Electricity and magnetism at intermediate level. Electrostatics and magnetostatics, electric field, scalar potential, dielectrics, Laplace’s and Poisson’s equations, current, magnetic field, vector potential, magnetic materials, inductance.

537 ELECTROMAGNETISM II 3 credits
Prerequisite: Admission to the physics master's program or permission. Special relativity, four vectors, Maxwell’s equations in covariant form, propagation, reflection and refraction of electromagnetic waves, multiple radiation.

541 QUANTUM PHYSICS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Introduction to quantum theory, Schrödinger equation, observables, angular momentum, perturbation theory, variational principle, bound states, scattering theory, radiative interactions, spin and the Pauli Principle.

542 QUANTUM PHYSICS II 3 credits
Prerequisite: Admission to the physics master’s program or permission. Applications of quantum mechanics to atoms, nuclear and solid state physics. Tunneling and alpha decay, periodicty, hydrogen and helium atoms, atomic forces, quantum statistics.

551 ADVANCED LABORATORY I 3 credits
Prerequisite: Admission to the physics master's program or permission. Experimental laboratory projects in contemporary physics. FTIR spectroscopy, optical spectroscopy, lasers, X-rays, and thin-film growth and characterization.

552 ADVANCED LABORATORY II 3 credits
Prerequisite: Admission to the physics master's program or permission. Experimental laboratory projects in contemporary physics. Diode and dye lasers, laser feedback, chaos, NMR, electron tunneling, and fiber optics.

556 TECHNICAL PHYSICS INSTRUCTION 1 credit
Prerequisite: Admission to the physics master’s program or permission. 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.

579 INTRODUCTION TO SOLID-STATE PHYSICS 3 credits
Prerequisite: Admission to the physics master's program or permission. Account of basic physical processes occurring in solids, with emphasis on fundamental relation between these processes and periodicity of crystalline lattice.

581 METHODS OF MATHEMATICAL PHYSICS I AND II 3 credits each
Prerequisite: Admission to the physics master's program or permission. Vectors, generalized coordinate systems, tensors, calculus of variations, vector fields, linear transformations, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variabiles, analytic functions, Green's functions, integral equations.

588 SELECTED TOPICS: PHYSICS 1-4 credits
(May be repeated) Prerequisite: Admission to the physics master's program or permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics.

590 WORKSHOP (May be repeated) Prerequisite: Admission to the physics master's program or permission. Further investigations of various selected topics in physics, under guidance of faculty member.

597 INDEPENDENT STUDY 1-4 credits
(May be repeated) Prerequisite: Admission to the physics master's program or permission. Further investigations of various selected topics in physics, under guidance of faculty member.

598 PHYSICS COLLOQUIUM 1 credit
Prerequisite: Admission to the physics master's program or permission. Lectures on current research topics in physics by invited speakers. May be repeated, but only one credit counts toward M.S. degree. Credit/Noncredit.

605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Review of FORTRAN and basic topics in computer science. Numerical solutions to physics problems, including Newton's and Schrodinger's equations. Treatment and reduction of experimental data, plotting, simulation.

606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II 3 credits
Prerequisite: Admission to the physics master's program or permission. Data reduction, Computer plotting, comparison of theoretical models with data, linear and non-linear least squares curve-fitting. May accommodate scientific problems of individual interest.

610 SURFACE PHYSICS 3 credits
Prerequisite: Admission to the physics master's program or permission. An interdisciplinary course stressing the fundamentals and applications of physics at surfaces, including corrosion, catalysis, and adhesion.

615 ELECTROMAGNETIC THEORY I 3 credits
Prerequisite: Admission to the physics master's program or permission. Electrostatics and magnetostatics at advanced level for graduate students, boundary value problems, dielectrics, multipole expansions, time-varying fields, Maxwell’s equations and electromagnetic waves, reflection, refraction, wave guides and cavities.

616 ELECTROMAGNETIC THEORY II 3 credits
Prerequisite: Admission to the physics master’s program or permission. Scattering and diffraction, plasma physics, special theory of relativity, dynamics of relativistic particles in fields, collisions of charged particles, radiation from moving charges, bremsstrahlung, multipole fields.

625 QUANTUM MECHANICS I 3 credits
Prerequisites: Permission of instructor. Modern theory of quantum mechanics, representation theory in a central field, addition of angular momenta and spins, Clebsch-Gordon coefficients, perturbation theory, scattering, transition probabilities.

626 QUANTUM MECHANICS II 3 credits
Prerequisite: Admission to the physics master’s program or permission. Foundations of relativistic quantum mechanics. Klein-Gordon and Dirac equations, spin-zero and spin-1/2 particles in electromagnetic field, second quantization of bosons and fermions, superfluidity and superconductivity.

641 LAGRANGIAN MECHANICS 3 credits
Prerequisite: Admission to the physics master’s program or permission. Principle of least action and Lagrangian equation of motion, conservation laws, integration of equation of motion, collisions, small oscillations, Hamilton’s equations, canonical transformations.

661 STATISTICAL MECHANICS 3 credits
Prerequisite: Admission to the physics master’s program or permission. Fundamental principles of statistical mechanics, Gibbs, Fermi and Bose Statistics, solids, liquids, gases, phase equilibrium, chemical reactions and statistical thermodynamics.

669 CRITICAL PHENOMENA AND PHASE TRANSITIONS 3 credits

685 SOLID-STATE PHYSICS I 3 credits
Prerequisite: Admission to the physics master’s program or permission. Theory of physics of crystalline solids. Properties of reciprocal lattice and Bloch’s theorem. Lattice dynamics and specific heat. Electron states, cellular method, tight-binding method, Green’s function method.

686 SOLID-STATE PHYSICS II 3 credits
Prerequisite: Admission to the physics master’s program or permission. Orthogonalized plane wave and pseudo potentials. Electron-electron interaction; screening by impurities. Friedel sum rule and its relation to reality and human thinking. Includes discussion of views of linguists such as Chomsky.

698 SPECIAL PROBLEMS IN THEORETICAL PHYSICS 1-3 credits
(May be repeated) Prerequisite: Admission to the physics master's program or permission. Intended to facilitate expansion of particular areas of interest in theoretical physics, by consultation with faculty member and independent study beyond available course work.

691 SEMINAR IN THEORETICAL PHYSICS 1-3 credits
(May be repeated) Prerequisite: Admission to the physics master's program or permission. Research topics in physics by invited speakers. May be repeated, but only one credit counts toward M.S. degree may obtain up to five credits for faculty supervised research projects. Grades and credit/Noncredit.

697 RESEARCH 1-4 credits
Prerequisite: Admission to the physics master’s program or permission. Candidates for M.S. degree may obtain up to five credits for faculty supervised research projects. Grades and credit/Noncredit.

699 SPECIAL TOPICS: PHYSICS 1-4 credits
Prerequisite: Admission to the physics master's program or permission. Enables student who needs information in special areas, in which no formal course is offered, to acquire knowledge in these areas.

700 MASTER’S THESIS 1 credit
Prerequisite: Admission to the physics master's program or permission. With approval of department, one credit may be earned by candidate for M.S. degree upon satisfactory completion of a master’s thesis.
POLITICAL SCIENCE: 3700:

562 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 role of the state system in the Middle East after World War I: 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
Introduction to political uses of military forces. Major focus on methodological, conceptual, and ethical alternatives confronted in developing and implementing defense policy.

525 COMMERCIAL FOREIGN POLICY 3 credits
Study of foreign policies of selected nations, with special attention to processes and instruments of decision making of the major powers.

522 UNDERSTANDING RACIAL AND GENDER CONFLICT 3 credits
This is the core course for the Certificates in Racial and Gender Conflict, providing students with an opportunity to intensively examine racial and gender conflict.

540 SURVEY RESEARCH METHODS 3 credits
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
Intensive study of policymaking 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
Examination of methods of policy analysis for analyzing public policies. Techniques of cost benefit analysis, evaluation research and experimenter control are covered as well as consideration of ethical issues in policy analysis, the practical problems facing policy analysts.

543 POLITICAL SCANDALS AND CORRUPTION 3 credits
This course will provide information on major political scandals, including media coverage, political public opinion, the role of special prosecutors, and the impacts of scandals.

550 ADMINISTERING PRISONS, PROBATION, AND PAROLE 3 credits
This course examines trends in the dynamic influence of corrections institutions' governing and internal power relations, electoral politics and correctional policies, and political imprisonment.

561 THE SUPREME COURT AND CONSTITUTIONAL LAW 3 credits
Interpretation of the Constitution by the Supreme Court with emphasis on federal judicial, legislative and executive power; separation of powers; and federalism.

562 THE SUPREME COURT AND CIVIL LIBERTIES 3 credits
Interpretation of the Constitution by the Supreme Court with emphasis on freedom of speech and press, freedom of religion, criminal rights and right to privacy.

570 CAMPAIGN MANAGEMENT I 3 credits
Reading, research and practice in campaign management.

571 CAMPAIGN MANAGEMENT II 3 credits
The second course in campaign management. Focus is on timing, coalition building, candidate positioning, event planning, internal organization, and other elements of campaign strategy.

572 CAMPAIGN FINANCE 3 credits
Reading and research in financial decision making in political campaigns.

573 VOTER CONTACT AND ELECTIONS 3 credits
Theoretical and practical approaches to gaining votes in all types of political campaigns.

574 POLITICAL OPINION, BEHAVIOR AND ELECTORAL POLITICS 3 credits
An intensive analysis of the formation, development, and consequences of opinion formation and change. Attention given to the effect of opinion change on electoral outcomes.

575 AMERICAN INTEREST GROUPS 3 credits
Reading and research on the development, structure and function of interest groups in the United States.

576 AMERICAN POLITICAL PARTIES 3 credits
Prerequisite: six credits of political science or permission. Reading and research on the development, structure and function of parties in the United States.

577 LOBBYING 3 credits
Examining the lobbying profession in the political process. Topics include theories of lobbying, tools of lobbying, the lobbying process, and types of lobbying.

580 POLICY PROBLEMS 3 credits
(May be repeated for a total of six credits) Intensive study of selected problems in public policy.

581 THE POLITICS OF POLICING 3 credits
Analysis of various political dimensions underlying the study of politics and policing in the context of police reform, crime, and the community.

582 CURRENT ISSUES (CJ TOPIC) 3 credits
Study and critical analysis of current issues, programs, and policies relating to policy science criminal justice at the federal state level.

583 CONSTITUTIONAL PROBLEMS IN CRIMINAL JUSTICE 3 credits
Analyzes Supreme Court policy-making regarding problems of criminal justice, including search and seizure, self-incrimination, right to counsel, jury selection, and post-appeal prisoner rights.

590 WORKSHOP IN POLITICAL SCIENCE 3 credits
(May be repeated for a total of nine credits.) This seminar is designed to meet the changing needs of our students in response to new and emerging political issues and controversies.

600 SCOPE AND THEORIES OF POLITICAL SCIENCE 3 credits
Prerequisites: Permission to a Political Science graduate program or permission. Emphasis on the nature, scope and content of political theory; theory construction and validation in political science.

601 RESEARCH METHODS IN POLITICAL SCIENCE 3 credits
Prerequisites: 600 or permission. Techniques of quantitative research methodology in political science; utility and limitations of quantitative analysis.

602 SEMINAR IN INTERNATIONAL POLITICS 3 credits
Prerequisite: Admission to a Political Science graduate program or permission. Analysis of current problems in theory and practice of politics and organization.

620 SEMINAR IN COMPARATIVE POLITICS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Research and analysis of comparative political systems.

621 SEMINAR IN ALTERNATIVES TO VIOLENCE AT HOME AND ABROAD 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. An interdisciplinary analysis of the nature of violence from interpersonal to international to enhance our capacity to reduce violence and other threats to liberty.

626 SEMINAR IN POLITICS OF DEVELOPING NATIONS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Selected topics in depth. Emphasis on theories of political development.

630 SEMINAR IN NATIONAL POLITICS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Reading and research on the multiple and contingent interconnections between law, punishment, politics, and power.

655 CAMPAIGN AND ELECTION LAW 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Examines the legal environment for political campaigns. Topics include historical background, legal foundations, voting rights, filing requirements, campaign finance, and political advertising.

668 SEMINAR IN PUBLIC POLICY AGENDAS AND DECISIONS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Reading and research on the development of public policy issues and modes of decision making by policy makers.

672 SEMINAR: POLITICAL INFLUENCE AND ORGANIZATIONS 3 credits
Prerequisites: Permission, examination of how public concerns and demands are resolved or diffused. A theoretical and applied look at parties, interest groups, public opinion, media, and protest.

690 SPECIAL TOPICS IN POLITICAL SCIENCE 1-3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Graduate-level examination of selected topics in American politics, comparative politics, international politics, international relations or political theory.

695 INTERNSHIP IN GOVERNMENT AND POLITICS 24 credits
(May be repeated for a total of six credits.) Prerequisite: Admission to a Political Science graduate program or permission. An internship arranged with an existing organization or government agency. However, the credit is determined by the student's organization or agency work.

696 TOPICS IN MASTER'S RESEARCH 3 credits
Prerequisite: Admission to a Political Science graduate program or permission. May be repeated for a total of nine credits. No more than six credits may be applied to degree requirements. The topics may change from year to year. The student must have the approval of the master's degree supervisor.

697 INDEPENDENT RESEARCH AND READINGS 1-15 credits
May be repeated, but no more than six credits toward the master's degree in political science.

699 MASTERS THESIS 2-6 credits
Prerequisite: Admission to a Political Science graduate program or permission.

PSYCHOLOGY 3750:

500 PERSONALITY 4 credits
Prerequisite: admission to the Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.

510 PSYCHOLOGICAL TESTS AND MEASUREMENTS 4 credits
Prerequisite: admission to the Graduate School. Consideration of current approaches to testing and measurement in tests of mental ability, educational, and professional interests.

512 HUMAN DEVELOPMENT 4 credits
Prerequisite: admission to the Graduate School. Consideration of current concepts and theories of human growth and development in the pre-scientific period and details of the scientific revolution.

514 PIAGETIAN ASSESSMENT TASKS 4 credits
Prerequisite: admission to the Graduate School. The application of psychological theory to the assessment and intervention of developmental or systematic viewpoints in 19th and 20th Centuries.

531 PSYCHOLOGICAL DISORDERS OF CHILDREN 4 credits
Prerequisite: 500 or permission. Behavioral data and treatment approaches emphasized.

534 COMPUTER METHODS I AND II 3 credits
Prerequisite: admission to the Graduate School or special nondegree students with permission. Psychological and educational assessment techniques introduced.

537 ORGANIZATIONAL THEORY 4 credits
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.

538 PSYCHOLOGY OF SMALL GROUP BEHAVIOR 4 credits
Prerequisite: admission to the Graduate School. The application of psychological theory to the development, structure and function of party groups, governmental agencies, law firms and other organizations providing mission-aligned work.

539 POLITICAL INFLUENCE AND ORGANIZATIONS 4 credits
Prerequisites: Admission to the Graduate School or special nondegree students with permission. The rise of the state system in the Middle East after World War I; an analysis of the sociocultural and political forces influencing the political behavior of the people of the Middle East. In-depth study of selected political systems.

540 ORGANIZATIONAL THEORY 4 credits
Prerequisite: admission to the Graduate School. The application of psychological theory to the development, structure and function of party groups, governmental agencies, law firms and other organizations providing mission-aligned work.

541 PERSONALITY 4 credits
Prerequisite: admission to the Graduate School and successful Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.

542 PSYCHOLOGICAL INFLUENCE AND ORGANIZATIONS 4 credits
Prerequisite: admission to the Graduate School. The application of psychological theory to organizational processes and institutional change. Attention given to the effect of opinion change on electoral outcomes.

543 PERSONALITY 4 credits
Prerequisite: admission to the Graduate School and successful Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.

544 ORGANIZATIONAL THEORY 4 credits
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.

546 PSYCHOLOGY OF SMALL GROUP BEHAVIOR 4 credits
Prerequisite: admission to the Graduate School. Intensive investigation of factors affecting behavior and performance in small groups including effects of personality, social structures, task, situation and social-cognitive variables.

550 COGNITIVE DEVELOPMENT 4 credits
Prerequisite: admission to the Graduate School. Theory and research on life-span changes in cognitive processes including concept formation/categorization, information processing and age-related changes.

560 HISTORY OF PSYCHOLOGY 3 credits
Prerequisite: admission to the Graduate School. Psychology in pre-scientific period and details of developmental or systematic viewpoints in 18th and 20th Centuries.

590 WORKSHOP IN PSYCHOLOGY 15 credits
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.

601 PSYCHOLOGICAL RESEARCH USING QUANTITATIVE AND COMPUTER METHODS I AND II 4 credits
Prerequisite: graduate standing in psychology or the collaborative doctoral program in computer science and psychology, or special nondegree students with permission. Psychological research problem applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychological measurement, error, robustness and power.
610 CORE I: SOCIAL PSYCHOLOGY
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Introduction to empirical research and theory on the psychological processes related to interpersonal behavior, focusing on topics like attitude change, social influence, and prosocial behavior.

620 CORE II: 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 and transfer.

630 CORE III: INDIVIDUAL DIFFERENCES
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of theoretical perspectives on individual differences in personality, behavior, and intelligence linked to between- and within-group cultural variables influencing personality development and assessment.

640 CORE IV: BIOPSYCHOLOGY
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of human nervous system function, including neuroanatomy, neurophysiology, and synaptic transmission. Also overview neurobiological bases of learning, memory, consciousness, intelligence, psychopharmacology, behavior genetics.

650 CORE V: SOCIAL-COGNITIVE PSYCHOLOGY
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Social and cognitive theory/research applied to the study of how people understand their social experiences. Topics include: person perception, attribution, social categorization, social inference.

660 SCIENCE AND ETHICS OF INDUSTRIAL PSYCHOLOGY
4 credits Survey of industrial psychology including coverage of selection and performance management. Also, discusses professional and scientific guidelines for the ethics of Industrial Psychology.

672 CONSULTING PRACTICUM
2 credits Prerequisite: graduate standing in psychology and permission of instructor. Introduction to and development of therapeutic skills and intervention techniques via instruction, role-play exercises, and case conference evaluations of actual clinical work samples. (May be repeated for a total of 8 credits.) Credit/noncredit.

673 COUNSELING PRACTICUM LAB
2 credits Prerequisite: graduate standing in psychology and instructor's permission. Corequisites: 722. Application of therapeutic skills and intervention techniques to work with clients in the Counseling Department counseling clinics, including small group supervision of clinical work. (May be repeated for a total of 8 credits.) Credit/Noncredit.

674 PERSONNEL PRACTICUM
1-4 credits (May be repeated.) Prerequisites: 660, graduate standing in psychology. 14 credits of graduate psychology and permission of the instructor. Supervised field experience in industrial/organizational psychological settings including business, government, or social organizations. The field experience requires the application of industrial/organizational psychological theories and techniques. Credit/Noncredit.

675 APPLIED COGNITIVE AGING PRACTICUM
1-4 credits (May be repeated.) Prerequisites: 721, graduate standing in psychology. 14 credits of graduate psychology and permission of the instructor. Supervised field experience in applied cognitive aging psychology to provide the student with the opportunity to apply skills and knowledge acquired in the academic setting and to obtain knowledge about community programs and agencies which focus on developmental processes. Credit/noncredit.

680 EXTERNAL SPECIAL TOPICS
1-4 credits (May be repeated.) Prerequisite: permission of the instructor. Research analysis of data and preparation of thesis for master's degree.

700 SURVEY OF PROJECTIVE TECHNIQUES
4 credits Prerequisites: 630 or instructor's permission. Introduction to rationale, assumptions and ethics, and research of projective testing. Elementary administration, scoring and interpretation of projective survey. Other important contemporary projective instruments.

701 PSYCHODIAGNOSTICS
4 credits Prerequisite: 700. Application of psychological testing to problems of diagnosis and evaluation. Psychological experience in administration, scoring and interpretation. Integration of projective data with other assessment techniques in variety of settings.

707 SUPERVISION IN COUNSELING PSYCHOLOGY I
4 credits Prerequisite: doctoral standing or permission of instructor. Instruction and experience in supervising a graduate student in counseling.

709 INTRODUCTION TO COUNSELING PSYCHOLOGY
2 credits Prerequisite: graduate standing in the Collaborative Program in Counseling Psychology. Introduction to historical foundations and recent developments in counseling psychology, with an emphasis on contemporary research literature in the field.

710 THEORIES OF COUNSELING AND PSYCHOTHERAPY
4 credits Prerequisites: 630 or permission of the instructor. Major systems of individual psychotherapy and major job evaluation systems. Covered will be reviewed. Advantages and disadvantages of various systems including environmental design, mobility, independence, neuropsychological assessment, and skilled performance.

715 RESEARCH DESIGN IN COUNSELING I
3 credits Prerequisite: doctoral standing or permission of the instructor. Study of research designs, evaluation, and the critical review of research literature.

717 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY
4 credits Prerequisites: 630; one semester of practicum work. Critical examination and application of research and theory in counseling diverse populations, focusing on race/ethnicity, gender, disability, sexual orientation, age, disability, and issues of barriers faced by diverse students.

718 HISTORY AND SYSTEMS IN PSYCHOLOGY
2 credits Prerequisite: 630. Philosophical and scientific antecedents of psychology and a review of the development of systematic inquiry in psychology from 450 to 200 BC.

727 PSYCHOLOGY OF ADULTHOOD AND AGING
4 credits Prerequisite: graduate standing in psychology or in the collaborative program in counseling psychology or permission of instructor. Aspects of development, aging with emphasis on life-span methodology and research design. Age-related changes in intelligence, personality sensation, perception, learning, memory, and socialization and intervention approaches.

728 APPLIED COGNITIVE AGING PSYCHOLOGY
4 credits Prerequisites: 722 (graduate standing in psychology or permission of instructor). Study of factors influencing social development in the later years. Topics to be covered include: social support, life stress, and other issues.

731 APPLIED COGNITIVE AGING PSYCHOLOGY: INFORMATION PROCESSING
4 credits Prerequisites: 722 (graduate standing in psychology or permission of instructor). Perception, learning, motivation, attention, and problem solving in adulthood and their effects on areas such as environmental design, mobility, independence, neuropsychological assessment, and skilled performance.

732 APPLIED COGNITIVE AGING PSYCHOLOGY: HIGHER PROCESSES
4 credits Prerequisites: 722 graduate standing in psychology or permission of instructor. Memory, comprehension, decision processes, intelligence, and knowledge, and their relation to everyday functioning in areas such as dementia, communication, judgment, awareness, expertise, wisdom, and creativity.

733 APPLIED COGNITIVE AGING PSYCHOLOGY: RESEARCH
4 credits Prerequisite: 722 (graduate standing in psychology or permission of instructor). Interactive reading in selected content area, design and conduct of a complete research study. (May be repeated.)

735 APPLIED COGNITIVE AGING PSYCHOLOGY: COGNITIVE NEUROPSYCHOLOGY
4 credits Prerequisite: 640 or instructor's permission. An advanced course that acquaints graduate students with the most recent literature in cognitive neuropsychology within the context of aging research.

738 APPLIED DEVELOPMENTAL PSYCHOLOGY
4 credits Prerequisite: 727. Graduate standing in psychology, or permission of instructor. Examination of methodologies, evaluation, child abuse, early intervention, day care, kibbutzim, social networks, subcultural variations, and hospice/biling.

739 INDUSTRIAL GERONTOLOGY
4 credits Prerequisites: 660, graduate standing in psychology, or permission of instructor. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, training, motivating and appraising older employees; health and safety; job design, vocational guidance; and retirement.

740 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS
4 credits Prerequisite: graduate standing in psychology or permission of the collaborative program in counseling psychology or permission of the instructor. Analysis of test construction techniques. Statistical analyses of tests with review of published tests and measurements used in psychology. Study of psychometric theory and principles.

751 ORGANIZATIONAL PSYCHOLOGY
4 credits Prerequisites: graduate standing in psychology or permission of the instructor. Survey of the functional systems theory framework to the study of the relationships between organizations and human behavior, the internal processes of organizations, and the relationships between organizations and their environment.

760 ORGANIZATIONAL PSYCHOLOGY
4 credits Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Survey of the functional systems theory framework to the study of the relationships between organizations and human behavior, the internal processes of organizations, and the relationships between organizations and their environment.

757 ORGANIZATIONAL MOTIVATION AND LEADERSHIP
4 credits Prerequisites: 660. Major job evaluation systems will be reviewed. Advantages and disadvantages of various systems. Coverage of current theories in cognitive psychology is applied to traditional and innovative approaches in job evaluation and applicable contemporary approaches.

770 COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH
4 credits Prerequisite: graduate standing in psychology or permission of instructor. Practical in application of computers to psychological research including data collection, analysis and interpretation. Also covers computer simulation of decision making including use of different models.

775 ROLE OF ATTITUDES AND VALUES IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY
4 credits Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Consideration of the role of attitudes and values in the prediction of behavior including consumer psychology, explaining attitude changes, measurement of attitudes and the use of survey methodology.

777 ORGANIZATIONAL MOTIVATION AND LEADERSHIP
4 credits Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Consideration of the role of attitudes and values in the prediction of behavior including consumer psychology, explaining attitude changes, measurement of attitudes and the use of survey methodology.

795 JOB EVALUATION AND EQUAL PAY
4 credits Prerequisite: 660. Major job evaluation systems will be reviewed and critiqued. Issues such as minimum qualifications for a job will be reviewed. Advantages and disadvantages of various job evaluation systems will be compared. Issues concerning federal regulations including the Equal Pay Act, comparable worth and other issues will be discussed. Regression approaches to job evaluation and applications of these methods will be reviewed.

780 ORGANIZATIONAL CHANGE AND TRANSFORMATION
4 credits Prerequisites: 660 or permission of instructor. Survey of theories and introduction to practical methods of organizational change and transformation used to increase organizational effectiveness and improve employee quality of work life.

781 INFORMATION PROCESSING AND INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY
4 credits Prerequisite: 660. Coverage of current theories in cognitive psychology is applied to traditional concerns of industrial/organizational psychology such as performance appraisal or motivation.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
<th>Prerequisite/Seminar/Research</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>510</td>
<td>SOCIAL STRUCTURES AND PERSONALITY</td>
<td>3</td>
<td>Interrelationships between position in society, personality characteristics. Personality treated as both result and determinant of social structure and process. Lecture.</td>
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<tr>
<td>511</td>
<td>SOCIAL INTERACTION</td>
<td>3</td>
<td>Intensive study of advanced theory and research in social psychology, particularly how social interaction and self-conception reflect another. Lecture.</td>
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<tr>
<td>512</td>
<td>SOCIALIZATION: CHILD TO ADULT</td>
<td>3</td>
<td>Theoretical and empirical analyses of process by which infant, child, adolescent and adult learn social and cultural requirements necessary to function in new roles, changing roles and society in general.</td>
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<td>521</td>
<td>RACIAL AND ETHNIC RELATIONS</td>
<td>3</td>
<td>Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture.</td>
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<tr>
<td>523</td>
<td>SOCIOLOGY OF WOMEN</td>
<td>3</td>
<td>Examination of research and theories pertaining to women's status in society, including economic conditions, the relationship between structure and experience, and other gender-related issues.</td>
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<tr>
<td>525</td>
<td>SOCIOLOGY OF URBAN LIFE</td>
<td>3</td>
<td>Examination of urban social structure from neighborhood metropolis, the problems and prospects. Emphasis on various life styles of urban subcultures. Lecture/Discussion.</td>
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<tr>
<td>528</td>
<td>THE VICTIM IN SOCIETY</td>
<td>3</td>
<td>Study of the nature, causes, and consequences of victimization with special focus on crime victimization.</td>
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<tr>
<td>530</td>
<td>JUVENILE DELINQUENCY</td>
<td>2</td>
<td>Analysis of social structure and process from which delinquency develops. Emphasis on current and past research. Lecture/Discussion.</td>
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<tr>
<td>531</td>
<td>CORRECTIONS</td>
<td>3</td>
<td>Theoretical beliefs and practices of community and institutional corrections systems, including past and current social research. Course taken prior to 3 credit hour Field Placement in Corrections (880-471).</td>
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<tr>
<td>533</td>
<td>SOCIOLOGY OF DEVIANT BEHAVIOR</td>
<td>3</td>
<td>Survey of theories of deviant behavior and relevant empirical research. Special emphasis given to interaction processes and social control. Lecture.</td>
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<tr>
<td>541</td>
<td>SOCIOLOGY OF LAW</td>
<td>3</td>
<td>Social origins and consequences of law and legal processes. Emphasis on uses of law, social change and aspects of legal professions. Lecture.</td>
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<tr>
<td>544</td>
<td>SOCIAL ISSUES IN AGING</td>
<td>3</td>
<td>A look at the major issues and problems facing older persons. Special attention is given to the unmet needs of the elderly as well as an examination of current societal policy and programs to meet these needs.</td>
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<tr>
<td>550</td>
<td>SOCIOLOGY OF MENTAL ILLNESS</td>
<td>3</td>
<td>The social history of the mental hospital, theories and epidemiology of mental illness, community-based treatment models, the organization of mental health services, the role of professional social networks and mutual support groups.</td>
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<tr>
<td>555</td>
<td>FAMILY VIOLENCE</td>
<td>3</td>
<td>Family violence with a focus on child abuse, guardianship violence, spouse/partner abuse, and elder abuse. Theories, methodologies, and strategies to end family violence are explored.</td>
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<tr>
<td>560</td>
<td>SOCIOLOGICAL THEORY</td>
<td>4</td>
<td>An overview and examination of theoretical issues in sociology, through the study of both classical and contemporary theoretical work.</td>
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<tr>
<td>601</td>
<td>PROSEMINAR IN SOCIOLOGY</td>
<td>1</td>
<td>Prerequisite: teaching/research assistant in sociology or permission of instructor. Introduction to professional aspects of sociology and major areas of study/research in the field. Seminar. Credit/Noncredit.</td>
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<tr>
<td>602</td>
<td>FAMILY AND SOCIETY</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Examination of the interplay of family and society: family as both independent/dependent variable, at micro/macro level. Emphasis on family policies is discussed.</td>
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<tr>
<td>604</td>
<td>RESEARCH DESIGN AND METHODS</td>
<td>2</td>
<td>Prerequisite: Graduate standing in Sociology or permission of researcher. Intensive analysis of problems in research design, i.e., those encountered in thesis preparation. (Same as KSU 672211) Seminar.</td>
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<tr>
<td>613</td>
<td>SOCIOLOGY OF PROGRAM EVALUATION AND PROGRAM IMPROVEMENT</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Program evaluation as a tool to assess different social programs. Emphasizes data gathering, value assumptions, political dimensions, ethical issues, social change, use of experimentation and alternatives and the use for program development. Seminar.</td>
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<tr>
<td>615</td>
<td>EPIDEMIOLOGICAL METHODS IN HEALTH RESEARCH</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Designed to introduce the student to methods of developing and understanding information concerning the distribution of disease and injury in society, and evaluation of interventions to reduce the burden.</td>
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<tr>
<td>625</td>
<td>SOCIOLOGY OF SENTIMENTS AND EMOTIONS</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. A sociological perspective is employed to analyze and understand the processes, distribution, and utilisation of socially created sentiments and emotions. (Same as KSU 6/72435) Seminar.</td>
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<tr>
<td>631</td>
<td>SOCIAL PSYCHOLOGY</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Intensive examination of social psychological theory and research, both classical and contemporary. Provided with background and working knowledge of social psychological aspects of social phenomena. (Same as KSU 72430) Seminar.</td>
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<tr>
<td>634</td>
<td>PERSONALITY AND SOCIAL SYSTEMS</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Examination of contemporary theory and research on linkages between personality and society. Some applications in studies of modernization, social class and occupations and sex roles. (Same as KSU 72432) Seminar.</td>
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<tr>
<td>639</td>
<td>SOCIOLOGY OF GENDER</td>
<td>2</td>
<td>Prerequisite: permission. Examination of theories and research on gender origins, characteristics and changes. Emphasizes recent empirical research on gender role patterns and processes in various industrial societies. (Same as KSU 672596) Seminar.</td>
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<tr>
<td>645</td>
<td>SOCIAL ORGANIZATION</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. General survey of major theories, concepts and problems pertaining to creation, alteration and dissolution of social organization at various levels of size and complexity. (Same as KSU 72540) Seminar.</td>
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<tr>
<td>646</td>
<td>SOCIAL INEQUALITIES</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Seminar dealing with social class and caste with special reference to American social structure. (Same as KSU 72546) Seminar.</td>
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<tr>
<td>648</td>
<td>COMPLEX ORGANIZATIONS</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Organizations as social systems; their effect on individuals. Problems of professionals in bureaucracies. (Same as KSU 72540) Seminar.</td>
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<tr>
<td>649</td>
<td>SOCIETY OF WORK</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Examination of work as both behavioral phenomenon in human societies; contrasts with non-work and leisure; significance of occupations, professional and work types in organization of work. (Same as KSU 72540) Seminar.</td>
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<tr>
<td>651</td>
<td>SEMINAR IN RACE RELATIONS</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of the structure and dynamics of race and ethnic relations with attention given to both historical and contemporary issues. (Same as KSU 67270) Seminar.</td>
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<tr>
<td>656</td>
<td>SOCIOLOGY OF HEALTH CARE</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. A general study of the field of medical sociology with special emphasis on analysis of health and health care in the contemporary urban United States. (Same as KSU 72323).</td>
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<tr>
<td>657</td>
<td>URBAN HEALTH CARE</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Relationships between urban social structures and processes and organization and functioning of health-care delivery systems in urbanized nations. Seminar.</td>
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<tr>
<td>663</td>
<td>DEVIANCE</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Examination of nature and types of deviance. Problems and issues in theory and research. (Same as KSU 72780) Seminar.</td>
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<tr>
<td>664</td>
<td>SOCIOLOGY OF CRIMINAL BEHAVIOR</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of relationship of crime and delinquency to social structure and social processes. Responses of criminal justice agencies. Seminar.</td>
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<tr>
<td>665</td>
<td>JUVENILE DELINQUENCY. THEORY AND RESEARCH</td>
<td>2</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of theories of delinquency, ecological, class structural, substructural, etc. Review of relevant research also presented. Seminar.</td>
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<tr>
<td>666</td>
<td>SOCIOLOGY OF CORRECTIONS</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of correctional institution as social system; its formal structure and informal dynamics. Analysis of present state of corrections research. Seminar.</td>
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<tr>
<td>677</td>
<td>FAMILY ANALYSIS</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of family as a social institution functional role and family issues in modern family. (Same as KSU 72544) Seminar.</td>
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<tr>
<td>678</td>
<td>SOCIAL GERONTOLOGY</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Impact of aging upon individuals and society. Reactions of individuals and society to aging. (Same as KSU 72677) Seminar.</td>
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<tr>
<td>685</td>
<td>POPULATION</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of basic population concepts and methods. Trends and differentials in fertility, mortality, migration and selected social demographic variables also considered. (Same as KSU 72568) Seminar.</td>
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<tr>
<td>687</td>
<td>SOCIAL CHANGE</td>
<td>3</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Advanced seminar in theories of social change. (Same as KSU 72320) Seminar.</td>
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</table>
696 MASTER'S RESEARCH PAPER
1-4 credits
(Must be repeated for a minimum of six credits.) Prerequisite: Graduate standing in Sociolo-
ogy or permission of instructor. Supervised writing of a paper for Master's Research Paper Option.

697 READING IN CONTEMPORARY SOCIOCULTURAL LITERATURE
1-3 credits
(May be repeated) Prerequisites: Graduate standing in Sociology, seven credits of sociology, and
approval of advisor and chair of the department. Intensive reading and interpre-
tation of written material in student's chosen field of interest. Regular conferences with
instructor.

698 DIRECTED RESEARCH
1-3 credits
(May be repeated) Prerequisite: Graduate standing in Sociology or permission of instructor.
Extramural research may be conducted by the student under graduate faculty supervision.

699 MASTER'S THESIS
1-6 credits
(Must be repeated for a minimum of six credits) Prerequisite: Graduate standing in Sociology
or permission of instructor. Supervised writing of a thesis.

701 SOCIAL SCIENCE TEACHING OF SOCIOLOGY
3 credits
Prerequisite: Teaching assistant in sociology or permission of instructor. Training and experi-
ence in college teaching of sociology. Approved for credit toward the Ph.D. degree. Not
approved as credit toward the degree. (Same as KSU 67698.) Seminar.

702 MULTIVARIATE TECHNIQUES IN SOCIOLOGY
3 credits
Prerequisites: 604 or permission; a sociology graduate student only. Methodological problems
using advanced multivariate techniques in analysis of sociological data. Topics include nonex-
perimental causal analysis such as recursive and nonrecursive path analysis. (Same as KSU
67798.) Seminar.

707 MEASUREMENT IN SOCIOLOGY
3 credits
Prerequisite: 706 or equivalent, graduate standing in Sociology or permission of instructor.
Theory and methods of measurement reliability and validity in social data. Topics include esti-
mating reliability and validity, scale and item design, alternative measurement strategies, mea-
urement models. Seminar.

708 ADVANCED DATA ANALYSIS
3 credits
Prerequisite: 706 or equivalent, graduate standing in Sociology or permission of instructor.
Critical examination of data analysis techniques having particular relevance to research problems
in sociology. (Same as KSU 72226.) Seminar.

710 SOCIAL SAMPLING
3 credits
Prerequisites: 604 or permission. Theory and methods of sampling in sociology. Topics
include sample design, sampling efficiency, nonresponse, mortality in longitudinal designs,
urban, organizational, and survey sampling, stratified and cluster sampling. Seminar.

711 SURVEY RESEARCH METHODS
3 credits
Prerequisites: 604 or permission. In-depth study of design and administration of social sur-
veys. (Same as KSU 72226.) Seminar.

712 EXPERIMENTAL AND QUASI-EXPERIMENTAL RESEARCH IN SOCIOLOGY
3 credits
Prerequisites: 604 or permission. Application of experimental and quasi-experimental meth-
ods in sociological research with special attention given to appropriate designs, statistical
analyses and empirical literature. Seminar.

714 QUALITATIVE METHODOLOGY
3 credits
Prerequisites: 604 or permission. Theory building and theory testing through the application
of such techniques as participant-observation, open-ended interviewing, content analysis, his-
torography (diaries, records from churches, schools, social agencies, and other contemporary
sources) and qualitative statistics. (Same as KSU 72226.) Seminar.

721 SPECIAL TOPICS IN SOCIOLOGICAL THEORY
1-3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Open course to cover
content area not readily subsumable under other headings. Content of course to be deter-
mined by instructor. (Same as KSU 72798.) Seminar.

722 EARLY SOCIOLOGICAL THOUGHT
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Two to four major
sociological thinkers prior to 1930 examined in depth. Specific persons considered will be cho-
en by instructor but will be announced well in advance of beginning of class. (Same as KSU
72898.) Seminar.

723 CONTEMPORARY SOCIOLOGICAL THOUGHT
3 credits
Prerequisite: 722, graduate standing in sociology, or permission. Intensive, critical analysis of
current sociological thought in a broad spectrum of contemporary sociological theories. Virtually all
required reading will be from primary sources. (Same as KSU 72998.) Seminar.

726 STRATIFICATION AND HEALTH
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Race, social class,
and gender differences in physical and mental health status, help-seeking behavior, and health
care. Race, class, and gender stratification of health care workers. (Same as KSU 72326.) Seminar.

727 SOCIOLOGY OF OCCUPATIONS, PROFESSIONS AND HEALTH CARE
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Sociological exami-
nation of the organization of work in the health care field with emphasis on occupations, pro-
fessions, and healthcare delivery. (Same as KSU 72427.) Seminar.

728 SOCIOLOGY OF MENTAL HEALTH AND MENTAL DISORDERS
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Sociological exami-
nation of the social processes that affect mental health, that frame cultural ideas of normality
and illness, and that define clinical pathology. (Same as KSU 72526.) Seminar.

747 URBAN SOCIOLOGY
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of theories of
urban process and review of major contributions to empirical analysis of urban life. (Same as
KSU 72698.) Seminar.

753 ADVANCED TOPICS IN SOCIAL ORGANIZATION
1-3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Open course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 72798.) Seminar.

767 SPECIAL TOPICS IN DEVIANCE AND DISORGANIZATION
1-3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Designed to meet needs of student with interest in selected topics in deviance and disor-
ganization. (Same as KSU 72798.) Seminar.

7978 INDIVIDUAL INVESTIGATION
1-3 credits each
(May be repeated) Prerequisite: one semester of graduate work, permission of instructor,
advisor and chair of department. Readings and/or research supervised by member of gradu-
ate faculty. (Same as KSU 72898.) Seminar.

899 DOCTORAL DISSERTATION
0-10 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. (Must be repeated for a
minimum of 30 credits) Dissertation. (Same as KSU 82199.)
650 COMPARATIVE URBAN SYSTEMS
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analy-
sis and a number of major cities selected from the major urban areas of the world.
3 credits

660 STRATEGIC MANAGEMENT IN PUBLIC AND NON PROFIT SECTORS
This course examines linked disciplines that form the basis of major public management and administration theories. Between 3 and 6 credits of this course may count toward degree.
3 credits

661 PUBLIC PROJECT DESIGN AND MANAGEMENT
Prerequisite: 600, 642. Examination of the development and management of large projects in public and non-profit organizations.
3 credits

662 FUNDRAISING AND RESOURCE MANAGEMENT
Prerequisite: permission. Examines alternative methods of fundraising and unique resource development challenges and opportunities of nonprofit organizations.
3 credits

663 NON-PROFIT MANAGEMENT
Prerequisite: permission. This course will provide students with a broad understanding of the management of nonprofit enterprises. Emphasis on leadership, resource development, aspects of vol-
unteerism, and management processes in nonprofit organizations.
3 credits

664 MANAGING INFORMATION AND TECHNOLOGY IN THE PUBLIC SECTOR
Prerequisite: permission. Focus on issues that confront public managers in utilizing informa-
tion as an organizational asset.
3 credits

670 RESEARCH FOR FUTURES PLANNING
Prerequisites: 600 and 601 and completion of eight credits of core curriculum in urban stud-
ies. An overview of the techniques associated with the field of futures research and their appli-
cation to long-term urban planning.
3 credits

671 PROGRAM EVALUATION IN URBAN STUDIES
Prerequisite: 600 or equivalent. Major considerations appropriate for conducting evaluations.
3 credits

672 ALTERNATIVE URBAN FUTURES
Overview of topics and issues associated with alternative urban futures and their implications for planning and public policy in urban communities.
3 credits

673 COMPUTER APPLICATIONS IN PUBLIC ORGANIZATIONS
Prerequisites: 600 and 661. Introduction to microcomputer applications in the public sector, includ-
ing word processing, statistical analysis, report writing, graphical representation, and spreadsheet software.
3 credits

674 ANALYTICAL TOOLS FOR PUBLIC ADMINISTRATORS
Prerequisite: 600. Public sector applications of quantitative methods, including decision analy-
sics, operations research, mathematical modeling and simulation.
3 credits

675 ADVANCED TECHNIQUES IN POLICY ANALYSIS
Prerequisites: 600, 601. Public sector application of techniques for analyzing policy proposals including decision analysis and simulations.
3 credits

680 1 SELECTED TOPICS IN URBAN STUDIES
1-3 credits/each
Prerequisite: permission. Selected topics in specific areas of urban planning, in various develop-
mental processes of cities or in various urban policy and administrative issues. (A maxi-
mum of 27 credits may be earned in 680 and 681.)

690 URBAN STUDIES SEMINAR
Prerequisites: 8 credits of urban studies core plus quantitative methods. Urban research methods applied to specific urban research area. Comprehensive paper required.
3 credits

691 MASTER’S COLLOQUIUM
This course is required for master’s students on assistantships. The course reviews program-
matics, research, and curricula issues in the master’s program.
1 credit

695 INTERNSHIP
Faculty-supervised work experience for “pre-service” students participating in policy planning and administration in public and nonprofit organizations.
1-3 credits/each

697 INDIVIDUAL STUDIES
Prerequisite: permission. (May be repeated for a total of six credits.) Directed individual read-
ings or research on specific area or topic.
3 credits

699 MASTER’S THESIS
Prerequisite: supervision. Supervised thesis writing. (May be repeated for a total of nine cred-
its, however, only six credits apply toward degree. Replaces two courses in specialization.)
3 credits

700 ADVANCED RESEARCH METHODS I
Prerequisite: master’s level statistics or permission. Introduction to statistical techniques and methodological issues in doctoral and postdoctoral research. Emphasis on conceptual and mathe-
matical interrelationships.
3 credits

701 ADVANCED RESEARCH METHODS II
Prerequisite: 600 or equivalent. Continuation of 700. Emphasis placed upon conceptual and methodological interrelationships of multivariate statistical techniques as well as application of these techniques through computer analysis of urban data sets.
3 credits

702 URBAN THEORY I
Prerequisite: permission. Review of major theoretical traditions examining urban problems; for students entering the doctoral program in urban studies (first in two-course sequence).
3 credits

703 URBAN THEORY II
Prerequisite: 702. Review of major professional disciplines dealing with urban problems; for students entering the doctoral program in urban studies (second in two-course sequence).
3 credits

704 PUBLIC BUREAUCRACY
Prerequisite: permission. Analysis of bureaucratic operations in the implementation of public pol-
icy, including special attributes of human service organizations and the democratic theory of bureaucracy.
3 credits

705 ECONOMICS OF URBAN POLICY
Prerequisite: master’s level knowledge of microeconomics and microeconomics or special perm-
ission of instructor. Analysis of research tools of economic analysis in seminar format to examine options avail-
able to urban policy makers in operation of public services and economic development of cities.
3 credits

706 PROGRAM EVALUATION
Prerequisite: permission. Advanced treatment of topics in program evaluation.
3 credits

707 URBAN PLANNING AND MANAGEMENT STRATEGIES
Prerequisite: permission. Analysis of urban planning policy issues and strategies for imple-
mentation in public policy formulation. Emphasis on use of planning process as integrative mechanism.
3 credits

708 URBAN POLICY: THE HISTORICAL PERSPECTIVE
Prerequisite: permission. Critical examination of major ideas about the city from Aristotle to the 20th Century and of the impact on urbanization of society and public policy.
3 credits

709 SYSTEMS AND PROCESSES OF POLICY ANALYSIS
Prerequisite: permission. Analysis of administrative processes within public organizations, fed-
eral, state and local in the United States; emphasis on urban community.
3 credits

710 QUALITATIVE RESEARCH METHODS
Prerequisites: 700 and 701. Critical examination of Social Science Research methodologies such as content analysis, open-ended survey techniques and other means of creating non-
statistically generated data.
3 credits

711 SEMINAR IN PUBLIC ADMINISTRATION
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying public administration in the United States.
3 credits

714 SEMINAR IN POLICY ANALYSIS AND EVALUATION
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying policy analysis and evaluation in the United States.
3 credits

715 SEMINAR IN URBAN AND REGIONAL PLANNING
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying urban and regional planning in the United States.
3 credits

716 THEORETICAL FOUNDATIONS FOR PUBLIC AFFAIRS
Prerequisite: permission. In depth review and critique of major intellectual traditions, concepts and theories underlying urban and regional planning in the United States.
3 credits

720 COMPARATIVE PLANNING STRATEGIES
Prerequisite: 715 or permission. Review and analysis of alternative planning theories, institu-
tions and implementation strategies in a variety of national settings.
3 credits

721 ETHICS IN GOVERNMENT
This course will explore the differences between individual and collective responsibility, private and public morality and the nexus between democratic and moral development.
3 credits

721 THEORIES OF PUBLIC BUDGETING AND FINANCE
Prerequisite: 711. Examines the theories and perspectives that have shaped how government uses and implements budgets.
3 credits

722 GOVERNANCE AND ADMINISTRATION
Prerequisite: permission. Governance and administration are integrated activities, yet have been taught as distinct activities. This course explores the connections and interrelatedness of the concepts.
3 credits

723 THEORIES OF PUBLIC SECTOR HUMAN RESOURCE MANAGEMENT
Prerequisite: permission. Examination of the organizational behavior and administrative theo-
ries that support modern public personnel systems.
3 credits

724 CONCEPTUAL AND LEGAL FOUNDATIONS OF PUBLIC ADMINISTRATION
Prerequisite: permission. Theoretical foundations and application of the various conceptual, political, and administrative frameworks within which public administrators function.
3 credits

725 COMPARATIVE ADMINISTRATION
Prerequisite: permission. Examination of the various theories of organizational leadership and their application in public organizations.
3 credits

726 LEADING PUBLIC ORGANIZATIONS
Prerequisite: permission. Examination of the various theories of organizational leadership and their application in public organizations.
3 credits

740 SURVEY/RESEARCH METHODS IN THE PUBLIC SECTOR
Prerequisite: permission. Examination of the various techniques and methods used by public organi-
izations to enhance civic involvement. Critiques of methodologies based upon information needs and citizens surveyed.
3 credits

741 ECONOMIC ANALYSIS IN PUBLIC ADMINISTRATION
Review of methodological and applied aspects of economic analysis in public policy making.
3 credits

740 SEMINAR IN HEALTH POLICY
Comprehensive review of public policy using historical, political, and economic perspectives and contexts. Emphasizes frameworks for conducting health policy analyses.
3 credits

741 PhD. COLLOQUIUM
This course introduces new doctoral students to the perspectives and practices of doctoral study. This is a credit/no credit course.
1 credits

788 URBAN POLICY STUDIES
(For may be repeated for a maximum of 16 credits.) Prerequisite: permission of instructor or chair. Selected topics for specialization delivered at Kent, Youngstown, and/or Cleveland State universities to apply toward a UA degree either as a required or an elective course.
3-9 credits/each

795 PRO-SEMINAR
Prerequisite: successfully pass all comprehensive examinations. Seminar to discuss research pro-
techniques in research practice in industry or federal labs. Credits equivalent to prelimi-
nary research, master research, or master project. (May be repeated.)
3 credits

799 URBAN TUTORIAL
Prerequisite: permission. Intensive study of a particular approved field within urban studies and public affairs under supervision of tutor. (May be repeated once.)
3 credits

899 DOCTORAL DISSERTATION
Prerequisites: Advancement to Candidacy and 796. Open to properly qualified student accept-
ed as candidate for Doctor of Philosophy degree. Student must register for at least one credit-
each semester until dissertation is accepted. Minimum of 12 credits required. (May be repeated.) Credit/noncredit.
1-15 credits/each

600 CURRICULAR PRACTICAL TRAINING
Prerequisite: Student must have completed at least one academic year in the program. Expo-
ure to engineering research/office in industry or federal labs. Credits equivalent to prelimi-
ary research, master research, or master project. Engineering dean approval.
3 credits

697 ENGINEERING MANAGEMENT REPORT
Prerequisite: permission of advisor. A relevant problem in engineering management is studied and reported.
2 credits

521 FUNDAMENTALS OF MULTIPHASER TRANSPORT PHENOMENA
Prerequisites: 321 or equivalent and permission. Major topics to be covered include intraphase and interphase mass and heat transport phenomena, transport phenomena in multiphase fluids, transport in porous media, transport in gasliquid pipe flows, computational fluid dynamics of multiphase systems, and case studies.
3 credits

535 PROCESS ANALYSIS AND CONTROL
Prerequisites: 300, 382. This course is intended for a student holding a BS in a discipline other than engineering. Response of simple and chemical processes and design of appropriate con-
trol systems.
3 credits

102 The University of Akron 2006-2007

Engineering

GENERAL ENGINEERING 4100:

600 CURRICULAR PRACTICAL TRAINING
3-9 credits

697 ENGINEERING MANAGEMENT REPORT
2 credits

CHEMICAL ENGINEERING 4200:

521 FUNDAMENTALS OF MULTIPHASER TRANSPORT PHENOMENA
3 credits

535 PROCESS ANALYSIS AND CONTROL
3 credits
MULTIPHASE TRANSPORT PHENOMENA
3 credits
Prerequisite: 600. General transport theorem, kinematics, Cauchy’s lemmas and the jump boundary conditions are all satisfied; emphasis is placed on the volume averaging. The single phase equations are then volume averaged to obtain the multiphase equations of change. The technique for using these equations and their practical significance is also covered.

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.

ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS
3 credits
Prerequisite: 610. Advanced topics in thermodynamics, including phase and reaction equilibria at high pressures, phase equilibrium for multiphase systems, reaction equilibria in multiphase systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium thermodynamics and current topics from literature.

MOMENTUM TRANSPORT
3 credits
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

NON-NEWTONIAN FLUID MECHANICS
3 credits

ENERGY TRANSFER
3 credits
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer starting with equations of conservation of mass, energy and entropy.

TOPICS IN ENERGY TRANSFER
3 credits
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering.

MASS TRANSFER
3 credits
Prerequisite: 600. Theory of mass transfer with applications to absorption, distillation and heterogeneous catalysis.

PROCESS CONTROL
3 credits
Prerequisite: 600. Introduction to modern control theory of chemical processes including cascade control, multivariable control and data sampled control.

POLYMER ENGINEERING TOPICS
3 credits
Prerequisite: 605. Current topics in current interest in polymer engineering, such as new methods of modeling of reactors or processes, multiphase materials, multiphase flow, artificial fiber engineering, etc.

CHEMICAL PROCESSING OF ADVANCED MATERIALS
3 credits
Prerequisite: 605. Advanced materials such as ceramics, optical materials, sensors, catalysts; application of reaction engineering to sol-gel processing, ceramic processing, modified chemical vapor deposition.

ADVANCED CATALYST DESIGN
3 credits
Prerequisite: 605. Development of catalysis theory and its application to the design of practical catalysts.

ADVANCED POLLUTION CONTROL
3 credits
Prerequisite: 483 or permission. Analysis of current environmental research in analytical instrumentation, air and water pollution, pollution control, hazardous waste treatment, and nuclear waste disposal.

ADVANCED BIOCATALYSIS AND BIOTRANSFORMATIONS
3 credits
Prerequisite: 3160/40/501 or permission of instructor. Focuses include: (a) high performance enzymes via chemical modification, recombinant technology, evolution, extremophiles; (b) applications of enzymes in biosynthesis, bioprocessing, biosensing, and bioremediation.

CHEMICAL ENGINEERING SEMINAR
3 credits
Prerequisite: permission of instructor. Advanced level coverage of specialized chemical engineering topics. Intended for students seeking a Ph.D. in engineering.

ADVANCED RESEARCH TECHNIQUES FOR ENGINEERING
3 credits
Prerequisite: permission of instructor. Advanced level coverage of specialized chemical engineering topics. Intended for students seeking a Ph.D. in engineering.

PRELIMINARY RESEARCH
1-6 credits
Prerequisite: approval of dissertation director. Preliminary investigations prior to the submission of a dissertation proposal to the Interdisciplinary Doctoral Committee.

DOCTORAL DISSERTATION
1-6 credits
Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student.

CIVIL ENGINEERING
4300:

DESIGN OF EARTH STRUCTURES
3 credits
Prerequisite: 314 or permission. Design of earth structures; dams, highway fills, cofferdams, etc. Embankment construction techniques, quality control, embankment analysis, instrumentation, foundation soil stabilization, seepage analysis and control. Design problem. Graduate students will perform more advanced analysis and design.

SOIL AND ROCK EXPLORATION
3 credits
Prerequisite: 314 or permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radiological measurements. Air photo interpretation.

CHEMISTRY FOR ENVIRONMENTAL ENGINEERS
3 credits
Prerequisite: 3160/40/501 or permission of instructor. Focuses include: (a) high performance enzymes via chemical modification, recombinant technology, evolution, extremophiles; (b) applications of enzymes in biosynthesis, bioprocessing, biosensing, and bioremediation.

ENVIRONMENTAL ENGINEERING DESIGN
3 credits
Prerequisite: 323. Introduction to the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized.

WATER QUALITY MODELING AND MANAGEMENT
3 credits
Prerequisite: 323. Analysis of interaction of the physical, chemical and biochemical processes affecting stream quality. Development of management strategies based upon the application of water quality modeling techniques to environmental systems.

HAZARDOUS AND SOLID WASTES
3 credits
Prerequisite: senior standing or permission of instructor. Hazardous and solid waste quantities, properties and sources are presented. Handling, processing, storage and disposal methods are discussed with non-technical constraints outlined.
543 APPLIED HYDRAULICS  2 credits
Prerequisite: 341. Review of design principles; urban hydraulics, steam channel mechanics, soil-mechanics, coastal engineering.

551 COMPUTER METHODS OF STRUCTURAL ANALYSIS  2 credits
Structural analysis using microcomputers; finite element software, interactive graphics; beam stiffness concepts and matrix formulation; simple and complex structural systems modeling; vibration.

553 OPTIMUM STRUCTURAL DESIGN  3 credits
Prerequisite: 306. Basic concepts in structural optimization. Mathematical programming methods including unconstrained minimization, multidimensional minimization and constrained minimization.

554 ADVANCED MECHANICS OF MATERIALS  3 credits
Prerequisite: 312 or equivalent. Three-dimensional state of stress and strain analysis; plane and axisymmetric bending of straight and curved members with shear deformation. Beams on elastic foundations. Saint Venant's torsional problems. Inelastic analysis of bending and torsional members. Introduction to energy method. Instability behavior of prismatic members.

563 TRANSPORTATION PLANNING  3 credits
Prerequisite: 381. Theory and techniques for development, analysis and evaluation of trans- portation systems. System planning, understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.

564 HIGHWAY DESIGN  2 credits
Prerequisite: 361. Study of modern design of geometrical and pavement features of highway design. Problem solving and computer use. Graduate students will produce a more complete design.

565 PAVEMENT ENGINEERING  3 credits
Prerequisite: 381. Theories of elasticity, of viscoelasticity and of layered systems as applied to pavements. Pavement materials characterization; pavement design, pavement restoration for rigid and flexible pavements.

566 TRAFFIC ENGINEERING  3 credits
Prerequisite: 381. Vehicle and urban travel characteristics, traffic flow theory, traffic studies, accidents and safety, traffic signs and marking, traffic signal planning, traffic control and transportation administration.

567 ADVANCED HIGHWAY DESIGN  3 credits
Prerequisite: 664. Autocad, or permission. Computer-aided geometric design of highways including survey data input and terrain modeling, cross-section templates, horizontal and vertical roadway design, earthwork computations, and advanced topics.

568 HIGHWAY MATERIALS  3 credits
Prerequisite: 361, 381, or permission. Properties of aggregates, manufacture and construction of portland cement concrete, properties of asphaltic materials, design and testing of hot mix asphalt pavement mixes and of surface treatments. Laboratory preparation of specimens and determination of properties. Graduate student requirement: Graduate students will be required to perform an additional eight-hour asphalt laboratory (Abson recovery of asphalt from pavement) and to prepare a paper on a highway materials topic.

574 UNDERGROUND CONSTRUCTION  2 credits
Prerequisite: 384. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.

604 DYNAMICS OF STRUCTURES  3 credits

605 STRUCTURAL STABILITY  3 credits

606 ENERGY METHODS AND ELASTICITY  2 credits

609 PRESTRESSED CONCRETE  3 credits
Prerequisite: 404. Basic concepts. Design of double-tube roof girder; shear;发展历程 beam; column; two-way slabs; highway bridge girder; precast, post-tensioned, conti- nuous girders; corbels; volume-change forces; connections.

607 MULTISTORY BUILDING DESIGN  3 credits
Prerequisite: 361. Flexibility and plasticity of multistory structures. Design of multistory building using mathematical modeling and computer software. Analysis of frame design; drift indices; microseismic (tall and partial tubular) systems; earthquake damage; fire protection. Analysis by STUFDIA.

608 FINITE ELEMENT ANALYSIS  3 credits
Prerequisite: 554 or equivalent. Introductory development of finite element method as applied to various topics from continuum mechanics. Such as areas as plane, axisymmetric and 3D stress analysis; conduction, fluid mechanics; transient problems an geometric and material nonlinearity.

609 COMPOSITE MATERIALS IN CIVIL INFRASTRUCTURE  3 credits
Prerequisite: 564 or equivalent. Constituent materials; manufacturing processes; panel prop- erties by micro/macromechanics; simplified analysis of composite beams; columns; and appli- cations to highway bridges; composites in concrete and wood structures.

611 FUNDAMENTALS OF SOIL BEHAVIOR  3 credits
Prerequisite: 384. In-depth examination of structure and fundamental physico-chemical and mechanical properties of engineering soils viewed as particulate matter.

612 ADVANCED SOIL MECHANICS  3 credits
Prerequisite: 583. Study of mechanics of behavior of soil as continuum. Principles of stress, strain, deformation, shear strength and pore water pressure as applied to mechanical behav- ior of soil materials.

613 ADVANCED GEOTECTICAL TESTING  3 credits
Prerequisites: 581, 621. Theory and practice of static and dynamic in situ and laboratory soil testing, including procedures, applicability, limitations. General evaluation of geotechnical param- eters for routine and special site conditions. One lecture, two laboratories per week.

614 FOUNDATION ENGINEERING I  2 credits
Prerequisites: 383 and 394. Admixture stabilization, precompression with vertical drains, vibra- tion, vibrocompaction, injection and grouting, thermal methods, electro-osmosis, soil rein- forcement, case studies.

615 FOUNDATION ENGINEERING II  3 credits
Prerequisite: 394 or permission. Soil-strucuture interaction theory and applications to under- ground structures including conduits, tunnels and shafts. Advanced foundation construction methods and problems including dewatering, soil stabilization, underpinning and cof finning. Slope stability analysis.

616 SOIL IMPROVEMENT  3 credits
Prerequisites: 335 and 394. Admixture stabilization, precompression with vertical drains, vibra- tion, vibrocompaction, injection and grouting, thermal methods, electro-osmosis, soil rein- forcement, case studies.
658 ADVANCED STEEL DESIGN
3 credits
Prerequisite: 401. Properties of steel, fasteners, bearing, friction joints, Gusset plates, bolts in tension and plates, veld joints, cyclic loads, fatigue analysis, types of detail, torsion, stability design.

659 EXPERIMENTAL METHODS IN STRUCTURAL MECHANICS
3 credits

660 LIMIT ANALYSIS IN STRUCTURAL ENGINEERING
3 credits

664 ADVANCED SEMINAR IN CIVIL ENGINEERING
1-3 credits
Prerequisite: permission. Advanced projects, reading, studies, or experimental in various areas of civil engineering.

665 ENGINEERING REPORT
2 credits
Prerequisite: Permission of advisor. A relevant problem in civil engineering for students electing the non-thesis option. The final engineering report must be approved by the advisor and the advisory committee.

666 MASTER'S RESEARCH
16 credits
Prerequisite: Permission of advisor. (May be repeated.) Research on a suitable topic in civil engineering culminating in a master's thesis.

667 MASTER'S THESIS
16 credits
Prerequisite: permission. Research and thesis on some suitable topic in civil engineering as approved by department. Defense of thesis is by final examination.

701 EARTHQUAKE ENGINEERING
3 credits

702 PLATES AND SHELLS
3 credits

703 VISCOELASTICITY AND VISCOPLASTICITY
3 credits

704 PLATE ELEMENT ANALYSIS
3 credits

710 ADVANCED COMPOSITE MECHANICS
3 credits
Prerequisite: EX. Analysis of short-fiber composites and statistical behavior, bending, buckling and vibration of laminated plates and shells. Advanced topics involving stress concentration, residual stress, fatigue, fracture toughness, nonlinear and viscoelastic stress-strain formulations, solutions of nonlinear problems.

712 DYNAMIC PLASTICITY
3 credits
Prerequisites: 680 or permission. Impulsive and transient loading of structural elements, beams, plates, shells, etc. in which inelastic deformation occurs. Topics include: longitudinal and transverse plastic wave propagation in thin rods, propagation of plastic hinges, rate-dependent viscoplastic waves, transient impact on beams and plates, high-rate forming, blast loading, plate perforation, shock waves in solids.

717 SOIL DYNAMICS
3 credits
Prerequisite: Permission of instructor. Vibration and wave propagation theory relating to soils, soil structures and foundations. Dynamic behavior of soils. Design of foundations for dynamic loading impact, pulsating and blast loads.

718 BIOMECHANICS
3 credits
Prerequisite: Permission of instructor. Provides the fundamentals required for understanding and successfully implementing the biodegradation of hazardous compounds coupled with the design and operational techniques of bioremediation systems.

745 SEEPAGE
2 credits
Discussion of parameters determining permeability of various soils. Analytical, numerical and advanced methods to determine two- and three-dimensional movement of groundwater. Unsteady flows.

889 PRELIMINARY RESEARCH (May be repeated for a total of 15 credits.)
1-5 credits
Prerequisite: approval of dissertation committee. Preliminary investigations prior to the submission of a dissertation proposal to the interdisciplinary Doctoral Committee.

899 DOCTORAL DISSERTATION (May be taken more than once.)
1-5 credits
Prerequisite: acceptance of research proposal by the inter-disciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student.

ELECTRICAL ENGINEERING 4400:

548 OPTICAL COMMUNICATION NETWORKS
3 credits
Optical waveguides and optical integrated components, optical transmitters and receivers, and optical communication network design.

549 DIGITAL COMMUNICATION
3 credits
Prerequisite: 341. Introduction to digital communication theory and systems; coding of analog and digital signals; multilevel modulation techniques. Introduction to information theory.

553 ANTENNA THEORY
3 credits
Prerequisite: 354 or equivalent. Theory of EM radiation. Wire antennas, arrays, receiving antennas, reciprocity. Integral equations for induced currents, self and mutual impedances. Equivalent principle, radiation from apertures.

555 MICROWAVES
4 credits
Prerequisite: 354 or equivalent. Dynamic fields, Maxwell's equation and wave equations. Field analysis of wave guides, microwave components, techniques and systems.

557 WIRELESS COMMUNICATIONS
3 credits
Prerequisite: 549. Theory and analysis of wireless communication systems, wireless propagation, interference, modulation, demodulation, multipath channel characterization, diversity, cellular, and PCS services and standards.

561 OPTICAL ELECTRONICS AND PHOTOCONDUCTIVE DEVICES
3 credits
Lightwave engineering, photonic principles and optical electronic device technology.

565 PROGRAMMABLE LOGIC
4 credits
Prerequisite: 263. Electronic circuitry considerations in logic circuits, methods of sequential, threshold logic analysis, synthesis, development of computer arithmetic elements, memory, storage devices.

570 MICROPROCESSOR INTERFACING
3 credits
Microprocessor structure, Bus Interface. Digital controller devices and their relationship to both the computer and physical environment.

572 CONTROL SYSTEMS II
3 credits
Prerequisite: 571. State variable analysis, design of control systems. Discrete systems, analysis, digital computer control. Experiments include hybrid, AC control system, digital computer control.

583 POWER ELECTRONICS I
3 credits
Prerequisite: 352. Elements of power electronics circuits. Rectifiers, converters, inverters analysis and design.

584 POWER ELECTRONICS LABORATORY AND DESIGN PROJECT
2 credits
Prerequisites: 483/583 or equivalent. Experiments on different types of power electronic converters: AC/DC, DC/DC, AC/DC, and AC/AC. Design project to include design, simulation, building, and testing of a power electronic circuit.

585 ELECTRIC MOTOR DRIVES
3 credits
Prerequisite: 388. Application of electric machines, choice of motor for particular drive. Application of power semiconductor circuits in electric machinery.

588 TOPICS IN ELECTRICAL ENGINEERING
12 credits
May be taken more than once. Prerequisite: permission of department chair. Special Topics in electrical engineering.

641 RANDOM SIGNAL ANALYSIS
3 credits
Prerequisites: 354, 557. Smoothing and improving of engineering data through application of statistical and probability methods.

642 IMAGE SYSTEM ENGINEERING
3 credits
Prerequisite: 561. Engineering principles of imaging systems, analysis, design, and evaluation of imaging systems, processing techniques, and applications.

643 INFORMATION THEORY AND CODING
3 credits
Prerequisite: 551 or permission. Sources, channels, entropy, mutual information, source coding theorem and channel capacity. Channel coding theorem for waveform channels. Introduction to rate-distortion theory.

646 DIGITAL SIGNAL PROCESSING
3 credits
Prerequisite: 553. Relations between continuous- and discrete-time Fourier expansions. Sampling, aliasing, sampling rate conversion. Operator concepts in signal processing, filter systems, FFT, digital filter designs.

647 DIGITAL SPECTRAL ANALYSIS AND SIGNAL MODELING
3 credits
Prerequisites: 548 or permission of instructor. Methods and theory of spectral analysis and signal modeling are investigated in detail. Applications of theory include speech processing, optimal filtering, biomedical systems, digital communication.

648 OPTICAL NETWORK ARCHITECTURE
3 credits
Prerequisite: 548. Principles of optical network architecture, analysis, design, control, and fault management.

650 ELECTROMAGNETIC THEORY I
3 credits

651 ELECTROMAGNETIC THEORY II
3 credits
Prerequisite: 650 or permission of the course instructor. Analysis of radiation from curved current distributions, invariant current distributions, propagation of electromagnetic fields, interaction between electromagnetic fields and current distributions, reflection, transmission, scattering.

652 COMPUTATIONAL EMMERGNETICS
3 credits
Prerequisite: 650 or permission of course instructor. Analytic and numerical techniques for electromagnetic fields, conformal mapping, finite difference method, finite element method, and the method of moments.

655 ADVANCED ANTENNA THEORY AND DESIGN
3 credits
Prerequisite: 453/553 or equivalent. Basic properties and recent advances of microstrip antennas. Analysis and design of reflector antennas. Analysis and synthesis of linear and planar antenna arrays.

666 SIMULATION OF NANOSCALE AND MOLECULAR-SCALE SYSTEMS
3 credits
Prerequisite: 635. The course is an introduction to computer simulation techniques for the analysis of nanoscale phenomena: molecular dynamics, fast algorithms for multimolecular and multiscale systems, ab initio methods in electronic structure calculation.

673 NONLINEAR CONTROL
3 credits
Prerequisite: 564 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, jump resonances, subharmonics, phase plane, conservative systems, Lyapunov function, bifurcation of attractors, and routes to chaos.

674 CONTROL SYSTEM THEORY
3 credits
Prerequisite: 571 or instructor permission. Advanced modern control theory for linear systems. Controllability, observability, minimal realizations of multivariate systems, stability, state variable feedback, estimation, and an introduction to optimal control.

675 SYSTEM SIMULATION
3 credits
Prerequisite: 472 or permission of the instructor. The course is designed to provide the control engineer with tools necessary to simulate continuous systems on a digital computer. Topics include linear multistep methods, nonlinear methods, stiff systems, optimization, parallel computing and simulations languages.

677 OPTIMAL CONTROL I
3 credits
Prerequisite: 654. Formulation of optimal control problems; application of variational calculus, maximum principle and optimality principle to control problems. Computational techniques in optimization.

680 DYNAMICS AND CONTROL OF POWER ELECTRONIC CIRCUITS
3 credits
Prerequisites: 483/583 or equivalent. Averaged and sampled-data models for rectifiers and DC/DC converters. Small and large signal models about the cyclic steady-state. Feedback controls using classical and modern approaches.

686 DYNAMICS OF ELECTRIC MACHINES
3 credits
Prerequisites: graduate status in Electrical Engineering. Voltage and mechanical differential equations of electric machines, analytical and numerical methods for solution of a system of machine differential equations.

687 POWER ELECTRONICS II
3 credits
Prerequisites: 483/583 or equivalent. Effects of the nonlinearities of the power circuit components, magnets, basis and gate drives, thyristor commutation circuits, heat transfer and thermal issues. Analysis and design of advanced power circuits.
MECHANICAL ENGINEERING 4460:

500 THERMAL SYSTEM COMPONENTS

3 credits
Prerequisites: 303, 311, 315. Performance analysis and design of basic components of thermal energy exchange and conversion systems. Components studied include heat exchangers, pumps, compressors, turbines, and steam power plants.

510 HEATING AND AIR CONDITIONING

3 credits
Prerequisite: 301 or permission. Corequisite: 315 or permission. Thermodynamics of gas mixtures, cycle design and selection of air conditioning equipment. Control of gas mixtures, heating, cooling, and humidity.

511 COMPRESSIBLE FLUID MECHANICS

3 credits

512 FUNDAMENTALS OF FLIGHT

3 credits
Prerequisite: 311. Introduction to basic aerodynamics, airplane performance, stability and control, and flight mechanics and propulsion. Design considerations are emphasized. Special topics include design of supersonic and high speed aircraft.

513 INTRODUCTION TO AERODYNAMICS

3 credits
Prerequisite: 311. Introduction to aerodynamic concepts: conformal transformations, theory of thin airfoils, 2-dimensional airfoil theory, wings of finite span, lifting line theories, lumped-vorticity, and panel methods.

514 INTRODUCTION TO AEROSPACE PROPULSION

3 credits
Prerequisite: 311. Introduction to propulsion systems currently used in aerospace fields; propulsion principles for turboprop, chemical rockets, and electric rocket propulsion.

540 SYSTEM DYNAMICS AND CONTROL

4 credits

541 CONTROL SYSTEMS DESIGN

3 credits
Prerequisite: 340 or permission. Methods of feedback control system design such as minimization of error, root locus, frequency domain. Compensation techniques. Multivariable and nonlinear design methods and computer-aided control design.

560 INDUSTRIAL AUTOMATIC CONTROL

3 credits
Prerequisite: 441 or permission. Operation of basic control mechanisms. Study of mechanical, hydraulic, pneumatic, fluidic control systems, including application areas. Tuning of control devices for optimum performance of system. Case studies on control applications from industry, e.g., boilers, furnaces, process heaters.

575 OPTIMIZATION METHODS IN MECHANICAL ENGINEERING

3 credits
Prerequisites: 380 or permission. Development and implementation of solution of optimization problems in mechanical engineering. The use of dynamic programming and operational research methods for optimization including computer utilization and applications.

584 ROBOT DESIGN, CONTROL AND APPLICATION

3 credits
Prerequisites: 301 or permission and 441 or permission. Robot design and control. Kinematic and dynamic analysis of robots. The automated factory with robot applications.

590 INTRODUCTION TO COMPUTATIONAL FLUID FLOW AND CONVECTION

3 credits
Prerequisites: 315 or permission and 380 or permission. Numerical modeling of fluid/thermal systems, numerical solution of the momentum and thermal boundary layer equations; flow simulation using advanced heat transfer/-fluidic-gas graphics packages.

591 PRESSURE VESSEL DESIGN

3 credits
Prerequisite: 336 or permission. Introduction to modern pressure vessel technology. Topics include basic structural considerations, materials and their environment and design-construction features.

595 COMPUTER AIDED DESIGN AND MANUFACTURING

3 credits
Prerequisites: 380 or permission and 441 or permission. The use of computer systems to assist in the creation, modification, analysis, or optimization of engineering designs, and to plan, manage, and control manufacturing plants.

600 GAS DYNAMICS

3 credits

601 THERMODYNAMICS

3 credits
Prerequisite: 303 or permission. Extension and generalization of basic laws of thermodynamics with application to a variety of physical and biological systems. Introduction to irreversible thermodynamics, the third law and statistical thermodynamics.

603 FINITE ELEMENT ANALYSIS I

3 credits
Prerequisites: 301, 325. Introduction of finite element method as applied to various topics from continuum mechanics. Areas covered include plane, axisymmetric and 3-D stress analysis, fluid flow, heat transfer, representing geometries and materials, and boundary condition features.

610 DYNAMICS OF VISCOUS FLOW

3 credits
Prerequisites: 303, 330 or equivalent. Derivation and solution of equations governing laminar viscous flow. Applications include unsteady flows, slow viscous flows, parallel flows, lubrication flow and laminar boundary layer flows.

611 COMPUTATIONAL FLUID DYNAMICS I

3 credits
Prerequisite: 315 or permission of instructor. Study of numerical methods in fluids; numerical errors and stability, finite differencing, non-oscillating convection terms, Poisson equations, boundary conditions, turbulence, spectral and finite element techniques.
655 MICRO- AND NON-FLUID DYNAMICS
Prerequisite: 611 or permission of instructor. This course includes fundamentals of the ana-
tical and numerical solution of the problems pertinent to fluid mechanics on nano-
and micro-scales. Applications will include micro-engines, MEMS, micro-filters, and synthesis of nanomaterials.

660 ENGINEERING ANALYSIS
Prerequisite: B.S. in engineering. Study of analysis techniques as applied to specific engi-
neering problems. Applications include beam deflections, acoustics, heat conduction and
hydrodynamic stability.

661 FAILURE ANALYSIS OF MECHANICAL SYSTEMS
Prerequisite: 625 or permission. This course emphasizes engineering techniques for predic-
ting, analyzing, and fixing failures of mechanical systems. Students will be taught how
to link theory with practice by examining case studies of structural and mechanical fail-
ures and will obtain practical experience in modeling real complex systems in an end-of-term project.

662 MICROSCALE HEAT AND MASS TRANSFER
Prerequisite: 608 and 615 or permission. Kinetics theory, classical and quantum statistics,
structure of solids, phonons in solids, free electrons in solids, quantum transport theory,
hydrowave heat conduction, thermal conductivity of thin films, laser materials processing.

663 WEB-BASED SOLID MODELING AND E-MAFGUICHING
Prerequisite: 490B or equivalent, or permission. Team-based collaborative design with
a web-based solid modeling library, feature-based manufacturing analysis, and process planning using
cross-platform interoperable tools including JAVA, VRML for optimized product realiza-
tion.

664 FUNDAMENTALS OF CRYSTALIZATION AND SOLIDIFICATION
Prerequisite: 380 or equivalent, 608 or equivalent, or permission. Fundamental theories of
crystal nucleation and growth, interface stability and morphology, microstructure forma-
tion, and microsegregation. Applications in casting, welding, laser processing, and single crys-
tal growth.

670 INTEGRATED FLEXIBLE CELLULAR MANUFACTURING SYSTEM-
ANALYSIS AND DESIGN
Prerequisite: 482/582 or equivalent or by permission of instructor. The analysis of integrated
computer-aided-manufacturing systems, design of automated manufacturing components and simula-
tions of flexible cellular manufacturing systems.

671 FUNDAMENTALS AND APPLICATIONS OF MICRO ELECTRO MECH
ANICAL SYSTEMS
Prerequisites: Fundamentals of MEMS sensors and actuators, MEMS materials, bulk and
surface micromachining and MEMS device testing. Application in optics, automotive, and biomedical
instrumentation.

672 DESIGN OF MICROSYSTEMS AND NANO DEVICES
Design principles of various micro and nano sensors and actuators, microfluidic devices, micro-
structure analysis and simulation, microfabrication process design rules. Applications in
MEMS, lab-on-a-chip devices, BioMEMS and NEMS.

683 MEASUREMENTS METHODS AND EXPERIMENTAL ERROR IN
THERMOFLUID SCIENCES
Prerequisites: viscous flow, conduction heat transfer convection heat transfer. The course
will elaborate experimental error analysis, error analysis, error analysis, error analysis, struc-
tural testing, principles of testing, and devices and fluid flow quantization and temperature measure-
mental error analysis, laboratory work with testing.

696 SPECIAL TOPICS IN MECHANICAL ENGINEERING
Prerequisite: Permission. For qualified candidate for graduate degree. Supervised research in
the student’s major field of training or experience. Credit depends upon nature and extent of
project as determined by advisor and department chair.

697 ENGINEERING REPORT
Prerequisite: Permission of advisor. A relevant problem in mechanical engineering for students
selecting the non-thesis option. The final engineering report must be approved by the advisor
and the advisory committee.

698 MASTER’S RESEARCH
Prerequisite: Permission of advisor. (May be repeated.) Research on a suitable topic in
mechanical engineering culminating in a master’s thesis.

699 MASTER’S THESIS
Prerequisite: permission of advisor. (May be repeated) Supervised research in
a specific area of mechanical engineering.

704 FINITE ELEMENT ANALYSIS II
Prerequisites: 600, 4005. Computer-aided manufacturing systems, computer-aided manufacturing
and the design of automated manufacturing components and systems with hands-on experience.

705 FINITE ELEMENT ANALYSIS III
Prerequisites: 600, 620 or permission. Stability concepts, Stability of Benard convection,
Rayleigh-Taylor flow, parallel shear layers, boundary layers, asymptotic solution of Orr-Sommer-
feld equations, nonparallel stability.

719 ADVANCED HEAT TRANSFER
Prerequisites: 615, 616. Topics include nonhomogeneous or nonlinear boundary value prob-
lems of heat conduction, heat transfer with melting, solidification and heat transfer
in porous systems and hydrodynamically and thermally unsteady convection.

723 APPLIED STRESS ANALYSIS
Prerequisite: 623 or equivalent. Development of approximate solution techniques
including finite elements, method of weighted residuals (Rayleigh-Ritz, Galerkin, Trefftz, collo-
data, and the finite difference); Boltzmann solutions, heat transfer in porous systems and hydrodynamically and thermally unsteady convection.

726 NONLINEAR CONTINUUM MECHANICS
Prerequisite: 622. Finite deformation and strain, stress, constitutive equations, strain energies.
Solutions of finite deformation problems in hyperelasticity, coupled thermoviscoelas-
ticity and plasticity, electrodynamics, and micropolar theories.
634 MEDICAL IMAGING DEVICES 3 credits
Imaging modalities including radiation, magnetic resonance, and sound. The formation of imaging specific devices including computer tomography, magnetic resonance, ultrasound, gamma cameras and PET.

635 BIOMEDICAL NANOTECHNOLOGY 3 credits
Prerequisite: permission of instructor. Engineering principles of nanotechnology as applied to the design of nanomaterials, systems and techniques, aimed to explore biomolecules and biomaterials at the microscopic level, at one billionth of a meter.

640 SPINE MECHANICS 3 credits
Prerequisites: 300:561 or equivalent; 4300:406 or equivalent; or permission. Physical properties and functional biomechanics of the spine. Kinematics and kinetics of the human spine. Biomechanics of disc prolapse, trauma, instability, pain, and orthoses. Mechanics and design of surgical implants.

641 SOFT CONNECTIVE TISSUE BIOMECHANICS 3 credits
Prerequisites: 300:561 or equivalent; 4300:407 or equivalent; or permission. Physical properties and functional biomechanics of bone, the biology and mechanics of fracture and fracture healing. Mechanics of external and internal fixators. Total joint implants and reconstruction techniques.

644 MUSCLE MECHANICS AND OPTIMIZATION 3 credits
Prerequisite: Graduate standing in the College of Engineering or by permission. Human body joint kinetics, muscle mechanics and modeling. The principles of optimization as applied to muscle forces, along with muscle anatomy and physiology.

645 MECHANICS IN PHYSIOLOGY AND MEDICINE 3 credits
Prerequisites: 4600:310 and 4600:302 or equivalent. Blood rheology, mechanics of microcirculation, finite deformation theory of soft tissues, mechanics of blood and lymph circulations, kinematics and kinetics of orthopedic joints. Clinical applications.

647 KINEMATICS OF THE HUMAN BODY 3 credits
Prerequisites: 4600:310 or equivalent; graduate standing in the College of Engineering or by permission. Analytical methods used to model and quantify human body motion. Three-dimensional kinematics, joint coordinate systems, functional anatomy, segment center of mass and moment of inertia. Kinematic and direct measurement techniques. Clinical implications of disease.

651 CARDIOVASCULAR DIAGNOSTIC TECHNIQUES 3 credits
Prerequisites: 300:561, 562, or equivalent; 4600:330 or equivalent. Analysis of blood pumping action, pressure/flow waveforms, transmission and reflection factors, system optimization. Use of modeling and direct measurement techniques. Clinical implications of disease.

652 CARDIOVASCULAR THERAPEUTIC TECHNIQUES 3 credits
Prerequisite: 651. Cardiovascular therapeutic devices and procedures for correction of congenital defects, valve failure, heart and arterial bypass grafting and less-invasive catheter-based procedures.

653 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: 4200:221, 222 or 4600:330, 351 or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices. Design optimization. Analysis of human thermal system.

654 REHABILITATION ENGINEERING 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthesis and orthotics, biofeedback mechanisms, emerging technologies.

660 BIOMATERIALS AND LABORATORY MATERIALS 4 credits
Prerequisites: 4600:310 or equivalent. Biomedical materials. Basic properties and behavior of medical materials. Applications of material science in biological systems. Design and testing of biomaterials for medical applications.

661 ARTIFICIAL ORGANS 3 credits
Prerequisites: graduate standing in the College of Engineering or permission of instructor. Study of the rationale for the engineering and clinical aspects required for the design and variability of artificial organs, with emphasis on the artificial heart and artificial kidney.

667 MATHEMATICAL MODELING IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: graduate standing in engineering, mathematics, or physics; or permission of instructor. Modeling of pharmacokinetic, cardiovascular, neuromuscular, and immune systems, and artificial organ interactions. Deterministic and stochastic approaches.

668 MEDICAL DEVICES AND ARTIFICIAL ORGANS 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Design of medical devices and artificial organs, requirements, safety considerations, regulatory constraints, optimization techniques, government regulations, and legal liability.

697 SPECIAL TOPICS IN BIOMEDICAL ENGINEERING 1-4 credits
(May be repeated) Specialized areas of study as defined by the instructor.

698 MASTER’S RESEARCH 1-6 credits
Prerequisite: Permission of advisor. (May be repeated) Research on a suitable topic in biomedical engineering culminating in a master’s thesis.

699 DOCTORAL DISSERTATION 1-6 credits
Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of the dissertation director. May be repeated. Original research by the doctoral student.

700 MEDICAL IMAGING 3 credits
Prerequisite: 4600:300 or equivalent. Clinical uses of magnetic resonance and computed tomography, magnetic resonance, ultrasound, gamma cameras and PET.

704 PHYSICAL PHENOMENA IN BIOMEDICAL ENGINEERING 3 credits
Prerequisites: 633 or equivalent. A survey of physical processes in biological and biomedical systems. The role of physical chemistry and physics in understanding biological processes. Prerequisites: 4600:310, 562 or equivalent. Cardiovascular disease conditions, instrumentation and techniques (both invasive and noninvasive) used for diagnosis. Direct interaction with active clinical laboratories.

705 MUSCLE AND CONNECTIVE TISSUE BIOMECHANICS 3 credits
Prerequisites: 522 or equivalent. Cycling of the cardiovascular system, blood rheology, mechanics of microcirculation, finite deformation theory of soft tissues, mechanics of blood and lymph circulations, kinematics and kinetics of orthopedic joints. Clinical applications.

706 MUSCLE MECHANICS AND OPTIMIZATION 3 credits
Prerequisites: 300:561, 562, or equivalent; 4600:330 or equivalent. Analysis of blood pumping action, pressure/flow waveforms, transmission and reflection factors, system optimization. Use of modeling and direct measurement techniques. Clinical implications of disease.

707 REHABILITATION ENGINEERING 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthesis and orthotics, biofeedback mechanisms, emerging technologies.

708 BIOMEDICAL ENGINEERING COLLOQUIUM 1 credit
(May be repeated for a maximum of 16 credits) The Biomedical Engineering Colloquium is a seminar series designed to introduce students to current topics in biomedical engineering research, design, and business.

709 BIOMEDICAL IMAGING 3 credits
Prerequisites: 300:561 or equivalent. Cardiovascular disease conditions, instrumentation and techniques (both invasive and noninvasive) used for diagnosis. Direct interaction with active clinical laboratories.

710 CARDIOVASCULAR THERAPEUTIC TECHNIQUES 3 credits
Prerequisite: 651. Cardiovascular therapeutic devices and procedures for correction of congenital defects, valve failure, heart and arterial bypass grafting and less-invasive catheter-based procedures.

711 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: 4200:221, 222 or 4600:330, 351 or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices. Design optimization. Analysis of human thermal system.

712 REHABILITATION ENGINEERING 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthesis and orthotics, biofeedback mechanisms, emerging technologies.

713 BIOMEDICAL ENGINEERING 3 credits
Prerequisites: 300:561 or equivalent. Cardiovascular disease conditions, instrumentation and techniques (both invasive and noninvasive) used for diagnosis. Direct interaction with active clinical laboratories.

714 CARDIOVASCULAR THERAPEUTIC TECHNIQUES 3 credits
Prerequisite: 651. Cardiovascular therapeutic devices and procedures for correction of congenital defects, valve failure, heart and arterial bypass grafting and less-invasive catheter-based procedures.

715 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: 4200:221, 222 or 4600:330, 351 or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices. Design optimization. Analysis of human thermal system.

716 REHABILITATION ENGINEERING 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthesis and orthotics, biofeedback mechanisms, emerging technologies.

717 BIOMEDICAL ENGINEERING 3 credits
Prerequisites: 300:561 or equivalent. Cardiovascular disease conditions, instrumentation and techniques (both invasive and noninvasive) used for diagnosis. Direct interaction with active clinical laboratories.

718 CARDIOVASCULAR THERAPEUTIC TECHNIQUES 3 credits
Prerequisite: 651. Cardiovascular therapeutic devices and procedures for correction of congenital defects, valve failure, heart and arterial bypass grafting and less-invasive catheter-based procedures.

719 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: 4200:221, 222 or 4600:330, 351 or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices. Design optimization. Analysis of human thermal system.

720 REHABILITATION ENGINEERING 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthesis and orthotics, biofeedback mechanisms, emerging technologies.

721 BIOMEDICAL ENGINEERING 3 credits
Prerequisites: 300:561 or equivalent. Cardiovascular disease conditions, instrumentation and techniques (both invasive and noninvasive) used for diagnosis. Direct interaction with active clinical laboratories.

722 CARDIOVASCULAR THERAPEUTIC TECHNIQUES 3 credits
Prerequisite: 651. Cardiovascular therapeutic devices and procedures for correction of congenital defects, valve failure, heart and arterial bypass grafting and less-invasive catheter-based procedures.

723 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: 4200:221, 222 or 4600:330, 351 or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices. Design optimization. Analysis of human thermal system.

724 REHABILITATION ENGINEERING 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthesis and orthotics, biofeedback mechanisms, emerging technologies.
EDUCATIONAL FOUNDATIONS AND LEADERSHIP 5100:

512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS 3 credits (20 clinical hours) Design, adaptation, and production of instructional materials using graphics, transparency produc- tion, equipment, computer authoring software, mounting and laminating processes, photography, and other procedures.

520 INTRODUCTION TO INSTRUCTIONAL COMPUTING 3 credits Preparation of the student in the use of instructional technologies in educational and business set- tings. Segments of the course are offered in an online format.

590,1,2 WORKSHOP 1-,3 credits Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in face-to-face web-enhanced format and fully online format.

600 PHILOSOPHIES OF EDUCATION 3 credits Examination of basic philosophical problems underlying broad educational questions that confront society. Provides foundation for understanding of questions of modern society and education.

602 COMPARATIVE AND INTERNATIONAL EDUCATION 3 credits Comparative study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

604 TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION 3 credits Issues and subjects related to study of educational institutions, theories and/or ideas. Differ- ent topics will be offered from section to section. Delivered in face-to-face web-enhanced format and fully online format.

614 PLANNING FOR TECHNOLOGY 3 credits Emphasizes the process of planning for the use of technology in the school. Includes plans for faculty support and administration of the instructional process.

620 PSYCHOLOGY OF INSTRUCTION FOR TEACHING AND LEARNING 3 credits Prerequisite: 210/211 or equivalent. Current theories and research in the areas of cognition and learning, with an emphasis on motivation that underlies approaches to teaching in any context.

624 SEMINAR: EDUCATIONAL PSYCHOLOGY 3 credits (May be repeated for a total of six credits. Prerequisite: 250 or equivalent.) In-depth study of research in selected areas of learning, development, evaluation, and motivation.

629 PROFESSIONAL SEMINAR IN E-LEARNING 1 credit The nature, purpose, history, philosophy of e-learning will be explored through examination of associated trends and issues. Establishment of a learning community will be addressed in the face-to-face course component. E-learning course/centroid overviews will be discussed.

630 TOPICAL SEMINAR IN COMPUTER-BASED EDUCATION 3 credits (May be repeated for a total of six credits. Prerequisite: 404/520. Advanced topics related to development, implementation, research and evaluation in C.B.E. Student involvement empha- sized, required. Knowledge of programming language recommended.)

631 INSTRUCTIONAL DESIGN 3 credits The theory and practice of Instructional Design (ID) involves a systematic approach to the analysis, design, development, evaluation, and implementation of effective instruction.

632 WEB BASED LEARNING SYSTEMS 3 credits The purpose of this course is to help students become proficient in the design and develop- ment of web-based learning systems for training and education. Delivered in face-to-face web enhanced format and fully online format.

633 HYPERMEDIA 3 credits The purpose of this course is to introduce students to a variety of Hypermedia tools (both web-based and CD-ROM). Students will also be introduced to a variety of authoring para- digms.

634 VISUAL LITERACY 3 credits This course will combine a basic understanding of design principles and concepts with research findings on the use of visuals in the learning process.

635 EMERGING TECHNOLOGIES FOR INSTRUCTION 3 credits This course examines emerging technologies (hardware, software, systems) that support technology for learning, and methods for assessing the utility of any technology used for instruc- tional purposes.

636 TOPICAL SEMINAR IN EDUCATIONAL TECHNOLOGY 3 credits (May be repeated up to a total of six credits. Current trends and practices in educational technology, computer authoring software, tools and processes for instructional video production, presenta- tion software, etc.)

637 PHILOSOPHIES OF EDUCATIONAL TECHNOLOGY 3 credits To introduce students to the many philosophies of educational technologies and the manner in which information technology especially influences our pedagogies.

638 IMPLEMENTING AND INTEGRATING TECHNOLOGY 3 credits This course is designed to equip teachers with tools, resources, and strategies to support the integration and implementation of effective use of technology in the classroom.

639 STRATEGIES FOR ON-LINE LEARNING 3 credits This course will prepare instructors to make the transition from teaching in a physical class- room to facilitating learning in an increasingly virtual classroom. Delivered in face-to-face web-enhanced format and fully online format.

640 TECHNIQUES OF RESEARCH 3 credits Research methods and techniques commonly used in education and behavioral sciences; preparation of research reports. Includes library, historical, survey and experimental research and data analysis. Delivered in face-to-face web-enhanced format and fully online format.

642 TOPICAL SEMINAR IN MEASUREMENT AND EVALUATION 3 credits (May be repeated for a total of six credits. Topics of current interest and need will be empha- sized.) The student will develop extended competence with contemporary measurement and evaluation techniques.

646 MULTICULTURAL COUNSELING 3 credits Prerequisite: 5600:664 or permission of instructor. An examination of multicultural counsel- ing theory and research necessary to work with culturally diverse people.

648 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN 3 credits An exploration of individual and family development. Emphasis will be placed on understanding the relationship between the individual and his/her family.

695 FIELD EXPERIENCE: MASTER’S 1-3 credits Prerequisite: permission of department chair and instructor. Area determined in accordance with student’s program and professional goals.

696 MASTER’S TECHNOLOGY PROJECT 2-3 credits Prerequisite: permission of advisor. Prepare and test a technology learning package that includes any combination of text, graphics, sound, color, motion, and the provision for inter- action by the target students.

697 INDEPENDENT STUDY 1-3 credits (May be repeated for a total of six credits. Prerequisites: permission of advisor and instructor. Specific area of study determined in accordance with student’s program and professional goals.

698 MASTER’S PROBLEM 2-4 credits Prerequisite: permission of advisor and instructor. In-depth study of a research problem within a specific topic determined in accordance with student’s program and professional goals.

699 MASTER’S THESIS 4-6 credits Prerequisites: permission of department chair and instructor. In-depth study of a research problem determined in accordance with student’s program and professional goals.

701 HISTORY OF EDUCATION IN AMERICAN SOCIETY 3 credits Historical development of education in American social order, with special emphasis on social, political and economic setting.

703 SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION 3 credits Prerequisites: 5600 or equivalent. History and philosophy related to genesis and development of higher education in the Western world, with special emphasis given to higher education’s development in United States. Delivered in face-to-face web-enhanced format and fully online format.

705 SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION 3 credits (May be repeated for a total of six credits. Prerequisites: 5600 or equivalent. Inquiry into select- ed ideological social, economic and philosophical factors affecting educational development in United States and other countries.

710 ADULT LEARNING, DEVELOPMENT, AND MOTIVATION 3 credits Emerging theories of intelligence; theories of adult learning; stage theories of adult cognitive, conceptual and moral development; life cycle development; adult life transitions.

721 LEARNING PROCESSES 3 credits Emphasis on teaching as means of modifying pupil behavior; cognitive, motor, social and affective.

723 TEACHER BEHAVIOR AND INSTRUCTION 3 credits Prerequisite: 5600. Internally validate theoretical and empirical literature involving teacher conceptions of instruction. A student reports on theory, empirical research and applications in areas of individual interest.

740 RESEARCH DESIGN 3 credits Topics include problem statement, research questions, literature review, choosing a sample, selecting an appropriate research design and data collection method, and ethical and legal issues.

741 DATA COLLECTION METHODS 3 credits Prerequisite: 740. Emphasis on selecting, developing, and administering common data col- lection methods in education and social science research including standardized tests, inven- tories, questionnaires, focus groups, and content analysis.

742 STATISTICS IN EDUCATION 3 credits Statistical methods and techniques used in educational measurement and in educational research. Emphasis on hypothesis testing.

743 ADVANCED EDUCATIONAL STATISTICS 3 credits Prerequisite: 741. Emphasis on interpreting advanced statistics in education and the social sci- ences.

744 QUALITATIVE METHODS I 3 credits Provides an overview of theory about and hands-on experience with methods of qualitative research. Techniques of participant-observation, interviewing, and document collection will be covered.

745 QUALITATIVE METHODS II 3 credits Prerequisite: 744. Provides more advanced experience with theory and methods of qualitative research. Data collection and analysis will focus on students’ research interests and possible dissertation topics.

798 RESEARCH PROJECT IN SPECIAL AREAS 1-3 credits Prerequisite: permission of department chair and instructor. Critical and in-depth study of spe- cific problem in educational foundations.

801 RESEARCH SEMINAR 3 credits Prerequisites: 640 and 740; permission of department chair and instructor. Intensive study of research methods applicable to education. Emphasis on developing a dissertation proposal.

897 INDEPENDENT STUDY 1-4 credits (May be repeated for a total of eight credits.) Prerequisites: permission of department chair and instructor. Specific area of inquiry within humanistic and behavioral foundations of educa- tion determined in advance by student and faculty advisor.

GENERAL ADMINISTRATION 5170:

590 WORKSHOP 1-3 credits Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in face-to-face web-enhanced format and fully online format.

591,3 WORKSHOP 1-3 credits Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in face-to-face web-enhanced format and fully online format.

601 ORGANIZATIONAL LEADERSHIP 3 credits Prerequisite: 5100:540. A perspective of educational leadership and the context in which it oper- ates, with emphasis on the processes, tasks, roles and relationships involved. Field based, video conferencing, computer, internet.

602 MANAGEMENT OF PHYSICAL RESOURCES 3 credits A comprehensive view of the principles, practices, and new dimensions involved in the plan- ning and management of educational facilities.

603 MANAGEMENT OF HUMAN RESOURCES 3 credits An orientation to the major dimensions of the personnel function.

604 SCHOOL COMMUNITY RELATIONS 3 credits Prerequisites: 5601 and 5100:640. An analysis of the principles, practices, and materials that facilitate the interaction between the school’s internal and external publics. Field based research required.

606 EVALUATION IN EDUCATIONAL ORGANIZATIONS 3 credits Prerequisites: 5601 and 5601:640. An examination of the general concepts, models, practical applications and considerations involved in the evaluation of educational organizations.
500 POSTSECONDARY LEARNER  3 credits
Prerequisite: 601 or permission. Describes characteristics of the postsecondary learner; studies issues, factors, and strategies pertinent to successful facilitation of learning in a variety of postsecondary learning environments. Delivered in face-to-face web-enhanced format and fully online format.

501 LEARNING WITH TECHNOLOGY  3 credits
Prerequisite: 500. An in-depth review of instructional design and research technologies used and applied in workforce education and training by practitioners/learners for learning, research, and evaluation. Delivered in face-to-face web-enhanced format and fully online format.

505 WORKPLACE EDUCATION FOR YOUTH AND ADULTS  3 credits
Prerequisite: 501 or as a corequisite. History and operations of current youth workforce education for young and adults. Includes study of social, economic, and political influences that stimulate growth and expansion of workforce education. Delivered in face-to-face web-enhanced format and fully online format.

515 TRAINING IN BUSINESS AND INDUSTRY  3 credits
Prerequisite: 501 or permission. Examines the role and mission of the training function in the modern industrial setting. Foundation for students interested in industrial training or training supervision positions. Delivered in face-to-face web-enhanced format and fully online format.

520 POSTSECONDARY INSTRUCTIONAL TECHNOLOGY  3 credits
Experiences in using, developing, and evaluating instructional technology and media used in postsecondary learning environments. Delivered in face-to-face web-enhanced format and fully online format.

530 SYSTEMATIC CURRICULUM DESIGN FOR POSTSECONDARY INSTRUCTION  3 credits
Prerequisites: 501 and 500. Development of a systematic curriculum using sound instructional systems design principles and instructional technologies. Delivered in face-to-face web-enhanced format and fully online format.

535 SYSTEMATIC INSTRUCTIONAL DESIGN IN POSTSECONDARY EDUCATION  3 credits
Prerequisites: 501, 530, 5100,520, admission to program, or permission of instructor. Best practices in instructional strategies appropriate for postsecondary instructors. Emphasis on instructional design and learner outcome assessments. Delivered in face-to-face web-enhanced format and fully online format.

541 EDUCATIONAL GERONTOLOGY SEMINAR  3 credits
Designed for the person practicing in the field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of educational gerontology programs, seminars, workshops, and activities for older people.

580 SPECIAL TOPICS: WORKFORCE EDUCATION/TRAINING  1-3 credits
Prerequisite: permission of the instructor. Group study of special topics of critical, contemporaneous concern in workforce education/training. Delivered in face-to-face web-enhanced format and fully online format.

590,1,2 WORKSHOP  1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in face-to-face web-enhanced format and fully online format.

510 INDEPENDENT STUDY  1-6 credits
May be repeated for a total of six credits. Prerequisite: permission; corequisite: 602. Intensive work experience in operations of an institution of higher education, related to student’s program of studies and professional goals.

515 TRAINING IN BUSINESS AND INDUSTRY  3 credits
Prerequisites: 501 and 5100:520 or permission of instructor. Development of postsecondary instructional programs and workshops for older people.

515 ADMINISTRATION IN HIGHER EDUCATION  3 credits
In-depth study of administrative roles, functions, knowledge and skills requirements, and administrative behavior. Trends in administrative theory and application also explored.

515 ADMINISTRATION IN HIGHER EDUCATION  3 credits
In-depth study of administrative roles, functions, knowledge and skills requirements, and administrative behavior. Trends in administrative theory and application also explored.

HIGHER EDUCATION ADMINISTRATION  5190:

521 LAW AND HIGHER EDUCATION  3 credits
Legal aspects of higher education, sources of law and authority presented; impact on, interaction between, and implications of higher education discussed.

525 TOPICAL SEMINAR: HIGHER EDUCATION  3 credits
May be repeated.) Topical study in a variety of areas related to public and/or private higher education institutions, organizations. Maximum of six credits applied to degree.

526 STUDENT SERVICES AND HIGHER EDUCATION  3 credits
Examination of issues related to the delivery and evaluation of student services in higher education.

527 THE AMERICAN COLLEGE STUDENT  3 credits
Introduction to the sociopolitical, cultural, and economic factors influencing higher education, including the impact of student culture and student-centered learning.

530 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING  3 credits
Study of curriculum planning at the college and university level, factors influencing curriculum design, theories and practices of curricular change and innovation are also explored.

590 WORKSHOP  1-3 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. Delivered in face-to-face web-enhanced format and fully online format.

600 ADMINISTRATION IN HIGHER EDUCATION  3 credits
Prerequisite: permission. (May be taken during student’s final semester of coursework) Examination of higher education administration perspectives and issues, including those that pose particular concern to students. Capstone experience for students poised for program completion.

601 INTERNSHIP IN HIGHER EDUCATION  1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission; corequisite: 602. Intensive work experience in operations of an institution of higher education, related to student’s program of studies and professional goals.

602 INTERNSHIP IN HIGHER EDUCATION SEMINAR  1 credit
(May be repeated for a total 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
Facilitating student understanding of how American Higher Education is financed. Quantifies various methodologies used, and political and economic impacts and processes involved.

626 POLICY, ASSESSMENT, AND ACCOUNTABILITY IN HIGHER EDUCATION  3 credits
An examination of issues related to the delivery and evaluation of student services in higher education institutions, organizations. Maximum of six credits applied to degree.

635 INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE COLLEGE INSTRUCTOR  3 credits
Selected topics in instructional theory, techniques and strategies which are appropriate to instructional planning and development of college-level courses.

645 INDEPENDENT STUDY IN HIGHER EDUCATION  1-3 credits
Select areas 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.

POSTSECONDARY TECHNICAL EDUCATION  5400:

500 POSTSECONDARY LEARNER  2 credits
Prerequisite: 601 or permission. Describes characteristics of the postsecondary learner; studies issues, factors, and strategies pertinent to successful facilitation of learning in a variety of postsecondary learning environments. Delivered in face-to-face web-enhanced format and fully online format.

501 LEARNING WITH TECHNOLOGY  1 credit
An in-depth study of developmental education and research technologies used and applied in workforce education and training by practitioners/learners for learning, research, and evaluation. Delivered in face-to-face web-enhanced format and fully online format.

505 WORKPLACE EDUCATION FOR YOUTH AND ADULTS  3 credits
Prerequisite: 501 or as a corequisite. History and operations of current youth workforce education for young and adults. Includes study of social, economic, and political influences that stimulate growth and expansion of workforce education. Delivered in face-to-face web-enhanced format and fully online format.

515 TRAINING IN BUSINESS AND INDUSTRY  3 credits
Prerequisite: 501 or permission of instructor. Examines the role and mission of the training function in the modern industrial setting. Foundation for students interested in industrial training or training supervision positions. Delivered in face-to-face web-enhanced format and fully online format.

520 POSTSECONDARY INSTRUCTIONAL TECHNOLOGY  3 credits
Experiences in using, developing, and evaluating instructional technology and media used in postsecondary learning environments. Delivered in face-to-face web-enhanced format and fully online format.

530 SYSTEMATIC CURRICULUM DESIGN FOR POSTSECONDARY INSTRUCTION  3 credits
Prerequisites: 501 and 500. Development of a systematic curriculum using sound instructional systems design principles and instructional technologies. Delivered in face-to-face web-enhanced format and fully online format.

535 SYSTEMATIC INSTRUCTIONAL DESIGN IN POSTSECONDARY EDUCATION  3 credits
Prerequisites: 501, 530, 5100,520, admission to program, or permission of instructor. Best practices in instructional strategies appropriate for postsecondary instructors. Emphasis on instructional design and learner outcome assessments. Delivered in face-to-face web-enhanced format and fully online format.

541 EDUCATIONAL GERONTOLOGY SEMINAR  3 credits
Designed for the person practicing in the field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of educational gerontology programs, seminars, workshops, and activities for older people.

580 SPECIAL TOPICS: WORKFORCE EDUCATION/TRAINING  1-3 credits
Prerequisite: permission of the instructor. Group study of special topics of critical, contemporaneous concern in workforce education/training. Delivered in face-to-face web-enhanced format and fully online format.

590,1,2 WORKSHOP  1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in face-to-face web-enhanced format and fully online format.
Graduate Courses

594 EDUCATIONAL INSTITUTES
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

600 THE TWO-YEAR-ColLEGE
3 credits
Prerequisite: 501 or as a corequisite or permission of instructor. Introduces students to the nature, purpose, and philosophy of the two-year college. Includes an examination of two-year college and technical schools, proprietary schools offering courses at the postsecondary level. Delivered in face-to-face web-enhanced format and fully online format.

605 ADVANCED SYSTEM DESIGN: NEEDS ASSESSMENT AND EVALUATION
3 credits
Prerequisites: 501, 505, 530, 536. Examination of the institutional design in workforce education and training and supporting research in effective performance-based programs, assessment, and evaluation processes. Delivered in face-to-face web-enhanced format and fully online format.

620 POSTSECONDARY TEACHER LEADERSHIP
3 credits
Prerequisites: 501, 530, 536, or permission of instructor. An examination of the role of the supervisor, director, facilitator and evaluation of postsecondary instruction and professional development, as well as related leadership and management issues. Delivered in face-to-face web-enhanced format and fully online format.

660 POSTSECONDARY DISTANCE LEARNING
3 credits
Prerequisite: 501 or permission of instructor. Introduction of the nature, purpose, and philosophy of distance learning; examination of current scope, history, theory, institutions, and programs of distance learning. Delivered in face-to-face web-enhanced format and fully online format. Delivered in face-to-face web-enhanced format and fully online format.

661 CURRENT ISSUES IN HIGHER EDUCATION
3 credits
(May be repeated with change in topic.) Examination of many current problems and issues in institutions of higher education; adult education, technical institutes, community colleges, proprietary schools, undergraduate, graduate and professional education.

675 ADVANCED INSTRUCTIONAL APPLICATIONS SEMINAR
3 credits
Prerequisites: 501, 515 or 600, 520, 530, 536, 605, 620, 5100-5102 or 5103, admission to the teacher education program. Provides an opportunity for students to apply learning to teaching skills, evaluate their teaching abilities, and fine-tune skills before independently teaching in the field. Delivered in face-to-face web-enhanced format and fully online format.

690 INSTITUTION IN POSTSECONDARY EDUCATION
3 credits
Prerequisites: 501, supervision and permission of all required technical education coursework. Teaching or curriculum development under supervision from the University and the supervising organization. Includes a seminar and portfolio development. Delivered in face-to-face web-enhanced format and fully online format.

695 FIELD EXPERIENCE: MASTER'S
14 credits (20-80 field hours)
Prerequisite: experience needed to student's program of studies. Credit/noncredit.

697 INDEPENDENT STUDY
1-3 credits
(May be repeated for a total of six credits.) Area of study determined by student's need.

698 MASTER'S PROBLEM
3 credits
(May be repeated for a total of six credits.) In-depth study of an instructional or curricular problem in workforce education or training. Student must be able to demonstrate critical, analytical, and problem-solving skills.

699 MASTER'S THESIS
3 credits
(May be repeated for a total of six credits.) Opportunity to conduct research on a problem in workforce education or training. Student must be able to demonstrate needed analytical, evaluative, and basic research skills. Credit/noncredit.

CURRICULAR AND INSTRUCTIONAL STUDIES 5500:

522 CONTENT AREA LITERACY
3 credits
Examines instructional strategies for constructing meaning in content subjects (e.g., science, social studies, mathematics) by use of reading practices.

524 TEACHING READING TO CULTURALLY DIVERSE LEARNERS
3 credits
Knowledge, skills and attitudes to employ effective methods of teaching reading to diverse populations and/or learners whose language patterns are nonstandard.

540 PRINCIPLES OF BILINGUAL/MULTICULTURAL EDUCATION
3 credits
An introduction to the theories, cultural, social, linguistic bases of bilingual/multicultural education. Legislation, court decisions, program implementation included.

541 TEACHING LANGUAGE LITERACY TO SECOND LANGUAGE LEARNERS
4 credits
Course introduces methodologies for teaching reading, language arts in the bilingual/multicultural classroom. The bilingual student's native language and culture are stressed.

542 TEACHING MATHEMATICS, SOCIAL SCIENCES AND STUDY TECHNIQUES TO BILINGUAL STUDENTS
3 credits
Prerequisites: elementary education majors, 5500/333, 338, 338b, secondary education majors, 5500/371, science, social studies in the bilingual/multicultural classroom. Course applies methodologies for teaching mathematics, science, social studies in the bilingual/multicultural classroom. The bilingual student's native language stressed.

543 TECHNIQUES FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN THE BILINGUAL CLASSROOM
4 credits
Course includes teaching language skills to Limited English Proficient students in grades K-12, acquisition of language assessment tests, selection and evaluation of materials.

550 NATURE, HISTORY, AND PHILOSOPHY OF SCIENCE
3 credits
(May be repeated with a change of topic) Provides opportunities to examine the historical and philosophical perspectives of science in an online medium and the impact of science and technology on society.

565 VOCATIONAL BUSINESS EDUCATION
3 credits
Prerequisites: senior status or permission. Principles of program construction, organization, implementation, evaluation, improvement, and development of programs guides for both intensive and cooperative vocational education.

570 MULTICULTURAL EDUCATION IN UNITED STATES
3 credits
Theories, practices and interrelationships of American education. Comparisons of urban, suburban and rural educational settings with reference to socioeconomic differences.

571 CHARACTERISTICS OF CULTURALLY DIVERSE POPULATIONS
3 credits
Examination of culturally diverse populations with focus on youth in lowincome areas. Emphasis on cultural, social, economic and educational considerations and their implications.

572 PREPARATION FOR TEACHING CULTURALLY DIVERSE POPULATIONS
3 credits
Gain knowledge of learning styles, motivational perspectives, and management techniques, and prepare/adapt instructional materials for diverse populations.

575 INSTRUCTIONAL TECHNOLOGY APPLICATIONS
3 credits
Prerequisites: permission for competencies in use of instructional technologies to enhance both the instructor’s personal and professional productivity.

590, 12 WORKSHOP
1-3 credits
Workshop for educators to improve teaching skills in a specific area of the curriculum. (May be repeated for a maximum of 6 credits.)

594 EDUCATIONAL INSTITUTES
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 metropolitan setting.

605 SEMINAR IN TRENDS AND ISSUES IN CURRICULUM AND INSTRUCTION
3 credits
A study of recent research and theory in curriculum and instruction with special attention to applications to educational decision making.

610 EDUCATION AND THE YOUNG CHILD
3 credits
Prerequisite: permission on education of young children from birth through five years.

615 PHILOSOPHY AND ORGANIZATION OF MIDDLE SCHOOLS
3 credits
Pragmacy, theory, research, and exemplary organizational, assessment, and evaluation components of middle level education.

616 MIDDLE SCHOOL CURRICULUM AND INSTRUCTION
3 credits
Theories, research, and exemplary practices focusing on middle school curriculum and instruction.

617 ELEMENTARY AND SECONDARY LICENSURE SEMINAR
3 credits
This course should be taken at the beginning of the Master's with Licensure program as an introduction to curriculum and the pragmatics of teaching.

618 ADVANCED INSTRUCTIONAL TECHNIQUES
3 credits
Methods of teaching a particular area of the middle and secondary school curriculum for students in the Master's with Licensure program.

619 INSTRUCTIONAL AND MANAGEMENT PRACTICES
3 credits
Prerequisites: admission to postsecondary education. Focus on instructional and management strategies to become effective in instruction. Also included are educational issues that relate to effective management and instruction.

621 ADVANCED INSTRUCTIONAL TECHNIQUES: MODERN LANGUAGES I-II
3 credits
Prerequisite: 617 or permission of instructor. Focus is on theories of language acquisition, modern foreign language instruction suited to teaching foreign languages and cultures in the elementary school (K-4), and strategies that promote appropriate levels of language competence and proficiency for young learners.

622 CHILDREN'S LITERATURE IN THE CURRICULUM
3 credits
Examination of literary genres with emphasis on methods and techniques for presenting literature to children in preschoo1, elementary, and middle grades.

625 CONTEMPORARY ISSUES IN LITERACY INSTRUCTION AND PHONICS
3 credits
Survey course explores current research in reading and writing as constructive processes of meaning-making.

627 SPECIAL TOPICS: CURRICULAR AND INSTRUCTIONAL STUDIES
3 credits
Prerequisite: 625. Examines formal and informal assessments and intervention strategies for children with reading difficulties.

631 ADVANCED BEHAVIORAL STRATEGIES FOR THE EDUCATOR
3 credits
This course provides the educator with an advanced examination of strategies designed to improve student behavior in the school setting.

635 SEMINAR IN TEACHING FOREIGN LANGUAGES
3 credits
(May be repeated for a total of six credits.) Issues and subjects related to research in foreign language education and language learning theories. Different topics will be offered from section to section.

637 TOPICAL SEMINAR IN RESEARCH AND THEORY IN FOREIGN LANGUAGE EDUCATION
3 credits
(May be repeated for a total of six credits.) Issues and subjects related to research in foreign language education and language learning theories. Different topics will be offered from section to section.

645 THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS
3 credits
Focuses on the development of mathematics education, current trends in the teaching of elementary school mathematics, and future directions in mathematics education.

650 ELEMENTARY SCIENCE CURRICULUM AND INSTRUCTION
3 credits
A critical analysis of contemporary science curriculum and instructional methods for the young learner with particular attention to constructing curriculum and national standards.

651 SECONDARY SCIENCE CURRICULUM AND INSTRUCTION
3 credits
A critical analysis of the theory and practice of curriculum and instructional methods in science for early adolescent and adolescent learners.

652 FIELD EXPERIENCE: COLLOQUIUM
1 credit
Prerequisite: admission to student teaching corequisite: 694. Instructional experience in the 7-12 classroom to apply theory and research to practice.

653 FIELD EXPERIENCE: MASTER'S WITH LICENSURE
1-3 credits
Prerequisite: admission to student teaching. Instructional experience in the 7-12 classroom to apply theory and research to practice. (May be repeated for a maximum of 6 credits.)

654 FIELD EXPERIENCE: CLINICAL PRACTICE
1-2 credits
Prerequisite: admission to student teaching corequisite: 694. Planned teaching experience in schools selected and supervised by Office of Extended Educations.

655 FIELD EXPERIENCE: MASTER'S
1-6 credits
Prerequisites: permission of advisor and department chair. Experience in an educational setting to apply educational theory and research to practice.

656 MASTER'S PROJECTS
1-6 credits
In-depth investigation of specific problem pertinent to student's area of concentration in education.

657 INDEPENDENT STUDY
1-3 credits
Selected areas of independent investigation as determined by advisor and related to student's academic needs.
699 MASTER’S THESIS 4-6 credits
In-depth study of research problem in education. Student must be able to demonstrate necessary competencies to deal with research problem in education.

700 CURRENT RESEARCH AND THEORY IN SCIENCE EDUCATION 3 credits
Intensive examination of contemporary theory and research literature in science teaching and learning for preservice through senior high school students.

705 SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 1-3 credits
May be repeated. In-depth examination of a particular area of curriculum and instruction.

800 PROFESSIONAL SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 3 credits
Prerequisite: admission to either the Ph.D. or Elementary Education or Secondary Education program. Limited to developing individual programs of study and plan their doctoral studies. An overview of process and procedures will be addressed.

820 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION 3 credits
Survey of research, composition and evaluation of programs, design and development of projects in reading through group or individual study.

880 DOCTORAL SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 3 credits
Prerequisite: permission of advisor. Intensive study of a particular area of teacher education. (May be repeated with change of topic and for a total of 9 credits.)

895 DOCTORAL FIELD EXPERIENCE 1-6 credits each
(May be repeated for a total of 6 hours.) Intensive job-related experience pertinent to student’s needs. Student must be able to demonstrate skills and leadership abilities in an on-the-job situation.

896 INDEPENDENT STUDY 1-6 credits
(May be repeated for a total of 6 hours.) Area of study determined by student’s needs.

899 DOCTORAL DISSERTATION 1-20 credits
Study and in-depth analysis of a research problem in curriculum and instruction.

PHYSICAL EDUCATION 5550:

500 MUSCULOSKELETAL ANATOMY I: UPPER EXTREMITY 3 credits
Prerequisites: 3100:200, 201, 202, 203 and 2050:200. Designed to address the upper portions of the musculoskeletal system in comprehensive detail. Includes articulations, cytology, histology, neurological integration with lab and practical experiences.

501 MUSCULOSKELETAL ANATOMY II: LOWER EXTREMITY 3 credits
Prerequisites: 3100:200, 201, 202, 203 and 5550:200. Designed to address the lower portions of the musculoskeletal system in comprehensive detail. Includes articulations, cytology, histology, neurological integration with lab and practical experiences.

510 INTRODUCTION TO SPORT SOCIOLOGY 3 credits
Prerequisite: permission of advisor. Intensive study of the sociological aspects of sport. The course will educate students about gender and sport, race and sport, economics in sport, media and sport, and intercollegiate athletics.

520 SPORTS PLANNING/PROMOTION 3 credits
Analysis of marketing/promotions from a sport manager’s perspective. Emphasis on marketing strategies, tactics, and development in sport delivery systems.

524 SPORT LEADERSHIP 2 credits
This course has been designed to introduce the students to current issues related to leadership, management, and supervision. Course also will examine current sport leadership research as well as the fundamental governance structure of amateur and professional sport organizations.

536 FOUNDATIONS AND ELEMENTS OF ADAPTED PHYSICAL EDUCATION 2 credits
Principles, components, and strategies necessary in providing motor activities for handi capped students via application of a neuro-developmental model and alternative methods. Three hour lecture.

540 INJURY MANAGEMENT FOR TEACHERS AND COACHES 2 credits
This course challenges the graduate student to understand ways to provide for and the safety of the individuals they teach.

541 ADVANCED ATHLETIC INJURY MANAGEMENT: UPPER EXTREMITY 4 credits
Prerequisites: 200:200, 201, 202, 203, and 5550:240. This course is designed to cover recognition, reevaluation, and rehabilitation of upper extremity injuries as well as general medical pathologies of the upper extremity.

542 THERAPEUTIC MODALITIES AND PHARMACOLOGY 3 credits
Prerequisites: 3100:200, 201, 202, 203, and 5550:240. This course is designed to develop techniques and skills of Sport Science personnel in the selection and implementation of therapeutic modalities and drugs.

551 ASSESSMENT AND EVALUATION IN ADAPTED PHYSICAL EDUCATION 2 credits (0-3 clinical hours)
Prerequisite: Permission of advisor. Investigation, analysis, and selection of appropriate assessment instruments, as well as methodology for determining instructional objectives and activities for handicapped students. Three hour lecture.

553 PRINCIPLES OF COACHING 3 credits
Basics for becoming a successful coach. Discussion of principles applying to most sports, players, and coaches. Ten (10) clinical hours required.

556 LEGAL/ETHICAL ISSUES IN PHYSICAL AND LEISURE ACTIVITIES 2 credits
Legal and contemporary issues of greatest concern to those interested in physical and leisure activities (e.g., health management, playground safety, blood-borne pathogens, ethics, etc.).

556 PSYCHOLOGY OF INJURY REHABILITATION 2 credits
Prerequisites: 3100:200, 201, 202, and 203. This course will address the cognitive and affective aspects of injury and rehabilitation of injury. Specifically the stages of rehabilitation and techniques to aid in the rehabilitation process.

570 ORTHOPEDIC INJURY AND PATHOLOGY 2 credits
Prerequisite: 3100:200, 201, 202, and 203. This course will discuss musculoskeletal patholgy and surgical procedures associated with a physically active population.

590,1,2 WORKSHOP 2 credits
Prerequisite: 3100:200, 201, 202, and 203. This course will address musculoskeletal patholgy and surgical procedures associated with a physically active population.

600 BIOMECHANICS APPLIED TO SPORT AND PHYSICAL ACTIVITY 4 credits
Training future professionals in an integrated approach to qualitative diagnosis of motor skills for a variety of professions: examination of a particular area.

601 SPORTS ADMINISTRATION AND SUPERVISION 3 credits
Organizational and administrative efficiency in implementing sports programs (event management, budgeting, public relations); objective and effective procedures for evaluation/selection of personnel; periodic program reviews.

602 MOTOR BEHAVIOR APPLIED TO SPORTS 3 credits
Prerequisite: permission of advisor. Intensive study related to problem in outdoor education or related discipline.

603 TACTICS AND STRATEGIES IN THE SCIENCE OF COACHING 3 credits
Course focuses on coaching and teaching strategies in individual and team sports.

604 CURRENT ISSUES IN PHYSICAL EDUCATION 3 credits
This course represents a planned experience in interpretation and articulation of information within the context of selected aspects of current issues in sport.

605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE 3 credits
Functions of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions.

606 STATISTICS: QUANTITATIVE AND QUALITATIVE METHODS 3 credits
Prerequisites: (500:840, Research methodology, statistics application and interpretation), use of computers and appropriate software as they relate to various disciplines in the area of physical activity.

607 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY 3 credits
Analysis of factors influencing motivation of motor performance with emphasis on competition, audience effects, aggression.

610 MASTERING TEACHING AND COACHING 2 credits
To learn about becoming master teachers and coaches, students will apply effective teaching skills, focus on context, and reflect on the teaching/coaching process. Additional 10 clinical/hour required.

611 RESEARCH AND ANALYSIS OF EFFECTIVE TEACHING IN PHYSICAL EDUCATION 3 credits
For the new professional, this course concentrates on research and analysis of skills and professional competencies needed to become an effective teacher of physical education.

612 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION 2-4 credits
Prerequisite: permission of instructor. Group study of special topics in health and physical education and sports medicine.

616 FIELD EXPERIENCE: MASTER'S 1-3 credits
Prerequisite: permission of advisor. Participation in a work experience related to physical education. The experience may not be part of current position. Documentation of project required.

617 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to physical education. Documentation of the study required.

628 MASTER'S PROBLEM 2-4 credits
Prerequisite: permission of advisor. Participation in an in-depth study of a problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in physical education.

629 MASTER'S THESIS 4-6 credits
Prerequisite: permission of advisor. In-depth research investigation. Student must be able to demonstrate necessary competencies to deal with a research problem in physical education.

OUTDOOR EDUCATION 5560:

550 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM 4 credits
Prerequisite: permission of advisor. Intensive study of contemporary ideas, methodologies, knowledge relevant to outdoor education. Emphasis on participant involvement in educational practices, utilizing the natural environment.

551 RESOURCES AND RESOURCE MANAGEMENT FOR THE TEACHING OF OUTDOOR EDUCATION 4 credits
Prerequisites and instructional techniques which are applicable to outdoor education, and in depth study of methods and designs, unique to the process of teaching.

552 RESIDENT OUTDOOR EDUCATION 2 credits
Prerequisite: admission to the Ph.D. program in either Elementary Education or Secondary Education. Intensive examination of a particular area of teacher education. (May be repeated with change of topic and for a total of 9 credits.)

555 RESIDENT OUTDOOR EDUCATION 3 credits
Prerequisite: permission of advisor. Participation and documentation of practical professional experience related to outdoor education.

556 RESIDENT OUTDOOR EDUCATION 1-6 credits (60-180 field hours)
Prerequisite: permission of advisor. Participation in a work experience related to physical education. This course is designed to support the learning and teaching of outdoor education and its relationship to community health.

557 RESIDENT OUTDOOR EDUCATION 2-6 credits
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to outdoor education. Documentation of study required.

560 OUTDOOR PURSUITS 4 credits
Investigation and participation in practical experiences in outdoor pursuits.

565 OUTDOOR EDUCATION: SPECIAL TOPICS 2-4 credits
Prerequisite: permission of advisor. Group and individual study of special topics of contemporary concern in outdoor education.

566 PRACTICUM IN OUTDOOR EDUCATION 2-4 credits (60-120 field hours)
Prerequisites: 550 or 552 and permission of advisor. Supervised practical experience with existing outdoor education programs. In conjunction with practical work student meets regularly with advisor.

567 FIELD EXPERIENCE: MASTER'S 2-6 credits (60-180 field hours)
Prerequisite: permission of advisor. Participation and documentation of practical professional experience related to outdoor education.

568 INDEPENDENT STUDY 1-3 credits (70-90 field hours)
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to outdoor education. Documentation of study required.

569 MASTER'S PROBLEM 2-4 credits
Prerequisite: permission of advisor. Intensive research study related to a problem in outdoor education or related discipline.

570 MASTER'S THESIS 4-6 credits
Prerequisite: permission of advisor. Research demonstration independent scholarship in a discipline related to outdoor education.

HEALTH EDUCATION 5570:

520 COMMUNITY HEALTH 2 credits
Study of current public health problems. Organization and administration of various agencies and their roles in the solution of community health problems.

521 COMPREHENSIVE SCHOOL HEALTH 4 credits
Prerequisite: admission to Graduate School. This course explains and presents comprehen sive school health curricula for K-12. The three components of a comprehensive school health program are presented; instruction, services, and the environment.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>523 METHODS AND MATERIALS OF HEALTH EDUCATION</td>
<td>3</td>
<td>Requires permission of instructor. Planning, organization, use of instructional resources, and methods of health education content and teaching processes (pre-K-12).</td>
</tr>
<tr>
<td>560 PRACTICUM IN HEALTH EDUCATION</td>
<td>2</td>
<td>Requires permission of instructor. The practicum in Health Education is an on-site participation in a community health organization, agency, or resource.</td>
</tr>
<tr>
<td>610 COUNSELING SKILLS FOR TEACHERS</td>
<td>3</td>
<td>Prerequisites: 630 or permission. The study and practice of selected counseling techniques that can be applied by teachers in working with students, parents and colleagues.</td>
</tr>
<tr>
<td>620 ISSUES IN SEXUALITY FOR COUNSELORS</td>
<td>3</td>
<td>Prerequisite: 630 or permission. An overview of the theory and techniques of marital and family therapy, including exposure to theory, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of selected measures.</td>
</tr>
<tr>
<td>631 ELEMENTARY/SECONDARY SCHOOL COUNSELING</td>
<td>3</td>
<td>Prerequisite: Introductory class, examines elementary and secondary school counseling practices.</td>
</tr>
<tr>
<td>635 COMMUNITY COUNSELING</td>
<td>3</td>
<td>Prerequisite: Overview of community and college counseling services; their evaluation, philosophy, organization, and administration.</td>
</tr>
<tr>
<td>640 COUNSELING ADOLESCENTS</td>
<td>3</td>
<td>Prerequisite: Graduate student in counseling or related field. The examination of the psychological, emotional, and social developmental processes of the adolescent as these affect personality and performance in a diverse population will be addressed.</td>
</tr>
<tr>
<td>643 COUNSELING THEORY AND PHILOSOPHY</td>
<td>3</td>
<td>Prerequisite: Corequisite: Prerequisite: 630 or permission. Examination of major counseling systems including client-centered, behavioral and existential theories. Philosophical and theoretical dimension stressed.</td>
</tr>
<tr>
<td>646 MULTICULTURAL COUNSELING</td>
<td>3</td>
<td>Prerequisites: 643 or permission of instructor. An examination of the psychological, emotional, and social developmental processes of the adolescent as these affect personality and performance in a diverse population will be addressed.</td>
</tr>
<tr>
<td>647 CAREER DEVELOPMENT AND COUNSELING ACROSS THE LIFE-SPAN</td>
<td>3</td>
<td>Prerequisites: Overview of career development and choice over the lifespan. Personal, family, and societal factors that affect choice, career choice, and implementation are discussed.</td>
</tr>
<tr>
<td>650 FILIAL THERAPY</td>
<td>3</td>
<td>Prerequisites: 590 or 622 and graduate student in counseling or related field. This course is designed to train students how to teach parents specific child-centered play therapy skills to use with their children.</td>
</tr>
<tr>
<td>651 TECHNIQUES OF COUNSELING</td>
<td>3</td>
<td>Prerequisite: 650, 643 or permission. Consists of 669. Study and practice of selected counseling techniques and skills with emphasis on structuring, learning, and establishing a counseling relationship.</td>
</tr>
<tr>
<td>652 PERSONALITY AND ABNORMAL BEHAVIOR</td>
<td>3</td>
<td>Prerequisite: 650, 643 or permission. Development of a comprehensive articulated guidance and counseling program.</td>
</tr>
<tr>
<td>653 DEVELOPMENTAL GUIDANCE AND EMOTIONAL EDUCATION</td>
<td>3</td>
<td>Prerequisite: Admission to the program and chairs of the counseling programs. An overview of the theory and techniques of marital and family therapy, including exposure to therapy, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of selected measures.</td>
</tr>
<tr>
<td>654 DSM</td>
<td>3</td>
<td>Prerequisite: 665. In-depth study of theories and interventions which focus on the nature and quality of marital relationships.</td>
</tr>
<tr>
<td>656 TREATMENT IN CLINICAL COUNSELING</td>
<td>3</td>
<td>Prerequisite: 665. In-depth study of systems theory in family therapy. Major assumptions of the systems theory will be analyzed and the implications for interventions will be explored.</td>
</tr>
<tr>
<td>657 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: completion of 675. Must be repeated for a minimum of 6 credit hours over two semesters. May be repeated for a maximum of 12 credit hours. Paid or unpaid supervised clinical experience taken at least two consecutive semesters immediately following completion of 675. Credit/noncredit.</td>
</tr>
<tr>
<td>658 SUPERVISION IN COUNSELING PSYCHOLOGY I</td>
<td>1-4</td>
<td>Prerequisite: 675. Must be repeated for a total of 6 credit hours. Credit/no credit.</td>
</tr>
<tr>
<td>659 SUPERVISION IN COUNSELING PSYCHOLOGY II</td>
<td>4</td>
<td>Prerequisite: 675. Must be repeated for a total of 12 credit hours. Credit/no credit.</td>
</tr>
<tr>
<td>660 SEMINAR IN COUNSELING</td>
<td>1</td>
<td>Prerequisite: Counseling majors must elect 600 prior to electing 651 and/or within the first 10 credits. Corequisite: Prerequisite: 630. Study of research, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of intelligence tests for children and adults.</td>
</tr>
<tr>
<td>661 COUNSELING YOUTH AT RISK</td>
<td>3</td>
<td>Prerequisites: Graduate student in counseling or related field. Examination of the psychological, emotional, and social developmental processes of the adolescent as these affect personality and performance in a diverse population will be addressed.</td>
</tr>
<tr>
<td>663 THEORIES OF COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 670 or permission. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>665 ISSUES IN THEORIES AND MODELS OF PRACTICE IN COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 670 or permission. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>666 PRACTICUM IN COUNSELING I</td>
<td>3</td>
<td>Prerequisite: 675. Must be repeated for a minimum of 6 credit hours over two semesters. May be repeated for a maximum of 12 credit hours. Paid or unpaid supervised clinical experience taken at least two consecutive semesters immediately following completion of 675. Credit/noncredit.</td>
</tr>
<tr>
<td>669 SYSTEMS THEORY IN FAMILY THERAPY</td>
<td>3</td>
<td>Prerequisite: 675. In-depth exploration of systems theory in family therapy. Major assumptions of the systems theory will be analyzed and the implications for interventions will be explored.</td>
</tr>
<tr>
<td>675 INTRODUCTION TO COUNSELING</td>
<td>3</td>
<td>Prerequisite: 620 or permission. Consideration of the global issues, current research, coping behavior, support systems and family and individual needs in regard to life-threatening situations.</td>
</tr>
<tr>
<td>677 SUPERVISION IN COUNSELING PSYCHOLOGY II</td>
<td>4</td>
<td>Prerequisite: 675. Must be repeated for a total of 12 credit hours. Credit/no credit.</td>
</tr>
<tr>
<td>679 HOSTILIT Y AND DIVERSITY IN COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 670 or permission. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>687 MARITAL THERAPY</td>
<td>3</td>
<td>Prerequisite: 665. In-depth study of theories and interventions which focus on the nature and quality of marital relationships.</td>
</tr>
<tr>
<td>693 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 670 or permission. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>695 FIELD EXPERIENCE/MASTER'S</td>
<td>1-3</td>
<td>Prerequisites: Permission of advisor and department chair. Placement in selected setting for purpose of acquiring experiences and/or demonstration skills related to student's counseling program.</td>
</tr>
<tr>
<td>697 INASSIGNMENT STUDY</td>
<td>1-3</td>
<td>Prerequisite: Graduation. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>698 ADVANCED COUNSELING PRACTICAN</td>
<td>4</td>
<td>Prerequisite: Graduate student in counseling or related field. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>707 SUPERVISION IN COUNSELING PSYCHOLOGY II</td>
<td>4</td>
<td>Prerequisite: 675. Must be repeated for a total of 12 credit hours. Credit/no credit.</td>
</tr>
<tr>
<td>709 INTRODUCTION TO COUNSELING</td>
<td>2</td>
<td>Prerequisite: Graduate student in counseling or related field. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>709 INTRODUCTION TO COUNSELING</td>
<td>2</td>
<td>Prerequisite: Graduate student in counseling or related field. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>710 THEORIES OF COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 670 or permission. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>712 ADVANCED COUNSELING PRACTICAN</td>
<td>4</td>
<td>Prerequisite: Graduate student in counseling or related field. Examination of major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td>713 PROFESSIONAL, ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: Graduate student in counseling or related field. Examination of major issues in the field such as the counselor as a professional and as a person, and issues, problems, and trends in counseling.</td>
</tr>
<tr>
<td>714 OBJECTIVE PERSONALITY EVALUATION</td>
<td>4</td>
<td>Prerequisite: Permission of instructor. Prerequisites: 3750:420/520, and 3750:750 or 5600:645 or permission. Study of the development, administration, and interpretation of objective instruments for personality assessment (MMPI, CPI, MBTI, IP and selected additional inventories).</td>
</tr>
<tr>
<td>715 RESEARCH DESIGN IN COUNSELING</td>
<td>3</td>
<td>Prerequisites: Doctoral residency or permission. Study of research designs, evaluation procedures and review of current research.</td>
</tr>
<tr>
<td>716 ADVANCED COUNSELING PRACTICAN</td>
<td>4</td>
<td>Prerequisite: Graduate student in counseling or related field. Examination of major issues in the field such as the counselor as a professional and as a person, and issues, problems, and trends in counseling.</td>
</tr>
<tr>
<td>717 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 670 or permission. Examination of major issues in the field such as the counselor as a professional and as a person, and issues, problems, and trends in counseling.</td>
</tr>
<tr>
<td>718 HISTORY AND SYSTEMS IN PSYCHOLOGY</td>
<td>2</td>
<td>Prerequisites: 670 or permission. Study of research, theory in counseling diverse populations, focusing on race/ethnicity, sex/gender, sexual orientation, age, disability, and spirituality.</td>
</tr>
<tr>
<td>719 LEGAL ISSUES IN COUNSELING</td>
<td>2</td>
<td>Prerequisite: 670 or permission. Study of research, theory in counseling diverse populations, focusing on race/ethnicity, sex/gender, sexual orientation, age, disability, and spirituality.</td>
</tr>
<tr>
<td>722 INTRODUCTION TO PRACTICAN</td>
<td>3</td>
<td>Prerequisite: Admission to the program and chairs of the counseling programs. An overview of the theory and techniques of marital and family therapy, including exposure to therapy, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of intelligence tests for children and adults.</td>
</tr>
<tr>
<td>723 INTRODUCTION TO PRACTICAN</td>
<td>3</td>
<td>Prerequisite: Admission to the program and chairs of the counseling programs. An overview of the theory and techniques of marital and family therapy, including exposure to therapy, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of intelligence tests for children and adults.</td>
</tr>
<tr>
<td>725 DOCTORAL PROFESSIONAL SEMINAR IN COUNSELING</td>
<td>3</td>
<td>Prerequisite: Admission to the program and chairs of the counseling programs. An overview of the theory and techniques of marital and family therapy, including exposure to therapy, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of intelligence tests for children and adults.</td>
</tr>
</tbody>
</table>
**SPECIAL EDUCATION 5610:**

540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS 3 credits
 Prerequisite: Admission to College of Education Teacher Preparation Program or permission of instructor. A survey course covering the identification, development, classification, and intervention strategies for exceptional children and youth across education and community settings (1 field hour).

544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS 3 credits
 Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of intellectually gifted children.

547 INDIVIDUALS WITH MILD/MODERATE EDUCATIONAL NEEDS: CHARACTERISTICS AND IMPLICATIONS 4 credits
 Survey of etiology, classification, developmental characteristics of and intervention strategies for individuals with mild/moderate educational needs.

548 INDIVIDUALS WITH MODERATE/INTENSIVE EDUCATIONAL NEEDS: CHARACTERISTICS AND IMPLICATIONS 4 credits
 Prerequisite: 540. Survey of etiology, identification, classification, and developmental characteristics of individuals with moderate/intensive educational needs.

551 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE I 3 credits
 Prerequisites: 540 or 547. Educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of students with mild/moderate educational needs (20 field hours).

552 SPECIAL EDUCATION PROGRAMMING: SECONDARY/TRANSITION 3 credits
 Study of instruction, delivery systems designed to accommodate developmental patterns of secondary level students with exceptionalities (20 field hours).

553 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE I 4 credits
 Development of the programming strategies including assessment, inter/transdisciplinary models, individual instruction, and instructional practices based upon legal/ethical principles for individuals with moderate/intensive educational needs (20 field hours).

554 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE II 4 credits
 Advanced program for providing educational planning and intervention for individuals with moderate/intensive educational needs. Focus is on developing a comprehensive educational program which will facilitate optimum functioning and independence (20 field hours).

557 SPECIAL EDUCATION PROGRAMMING: MODERATE/MILD 3 credits
 Special educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age students with mild/moderate educational needs (20 field hours).

559 COLLABORATION AND CONSULTATION IN SCHOOLS AND COMMUNITY 3 credits
 Prerequisites: 440/540 and 447/547, or 448/548, or permission of instructor. Provides professionals with the skills and knowledge necessary to work effectively with parents of exceptional children.

560 FAMILY DYNAMICS AND COMMUNICATION IN THE EDUCATIONAL PROCESS 3 credits
 A study of family theory and beginning techniques for working with families of students with exceptionalities, in educational and community settings.

561 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD MODERATE INTENSIVE 3 credits
 Prerequisites: 540 and 548. Developmental patterns of young children with moderate/intensive educational needs (ages 3-8) and developmentally appropriate practices in programming and adaptations (20 field hours).

563 ASSESSMENT IN SPECIAL EDUCATION 3 credits
 Prepares student to select, administer and interpret formal and informal assessment procedures and use results in planning educational programs for exceptional individuals.

564 ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD SPECIAL EDUCATION 3 credits
 Prerequisites: 440/540 and 447/547. In-depth assessment of children (three to eight) and their environment who are at risk for disabilities or currently in special education.

567 MANAGEMENT STRATEGIES IN SPECIAL EDUCATION 3 credits
 Prerequisites: 540. Survey of the etiology, identification, classification, and developmental characteristics of individuals with moderate/intensive educational needs. Focus is on developing a comprehensive educational program which will facilitate optimum functioning and independence with exceptional individuals.

568 ADVANCED BEHAVIOR MANAGEMENT 3 credits
 Prerequisites: 540/547/548. Advanced techniques for remediating problematic behavior; establishing effective repertoire and evaluating research relevant to classroom management will be covered. Behavioral theory will be stressed.

569 CLINICAL PRACTICUM IN SPECIAL EDUCATION 3 credits
 Provides a pre-student teaching experience for students in the areas of assessment, program planning, instructional planning and presentation, classroom management, adaptations, and consultation with parents and other professionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of childhood disorders.

760 COUNSELING CHILDREN 4 credits
 Prerequisite: graduate student in counseling or related field. This course is designed as an entry-level course for counselors, school counselors, school psychologists, or other professionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of childhood disorders.

785 ASSESSMENT METHODS AND TREATMENT ISSUES IN MARRIAGE AND FAMILY THERAPY 3 credits
 Prerequisite: Successful completion of 540. Developmental patterns of young children with disabilities and developmentally appropriate practices in programming and adaptations (20 field hours).

797 INDEPENDENT READING AND/OR RESEARCH IN COUNSELING 1-6 credits
 Prerequisite: permission of instructor. (May be repeated) Prerequisite: permission of instructor. Independent readings and/or supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications. Credit/No credit.

809 USE OF ASSESSMENT DATA 3 credits
 Prerequisite: Successful completion of advanced practicum. Instruction and experience supervising graduate students in counseling.

811 SEMINAR: LEGAL ISSUES IN SPECIAL EDUCATION 3 credits
 Prerequisites: 467/567. Advanced techniques for remediating problematic behavior; establishing effective repertoire and evaluating research relevant to classroom management will be covered. Behavioral theory will be stressed.

820 ASSESSMENT IN SPECIAL EDUCATION 3 credits
 Prepares student to select, administer and interpret formal and informal assessment procedures and use results in planning educational programs for exceptional individuals.

825 ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD SPECIAL EDUCATION 3 credits
 Prerequisites: 440/540 and 447/547. In-depth assessment of children (three to eight) and their environment who are at risk for disabilities or currently in special education.

827 MANAGEMENT STRATEGIES IN SPECIAL EDUCATION 3 credits
 Prerequisites: 540. Survey of the etiology, identification, classification, and developmental characteristics of individuals with moderate/intensive educational needs. Focus is on developing a comprehensive educational program which will facilitate optimum functioning and independence with exceptional individuals.

828 ADVANCED BEHAVIOR MANAGEMENT 3 credits
 Prerequisites: 540/547/548. Advanced techniques for remediating problematic behavior; establishing effective repertoire and evaluating research relevant to classroom management will be covered. Behavioral theory will be stressed.

830 CLINICAL PRACTICUM IN SPECIAL EDUCATION 3 credits
 Provides a pre-student teaching experience for students in the areas of assessment, program planning, instructional planning and presentation, classroom management, adaptations, and consultation with parents and other professionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of childhood disorders.

831 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION 1-2 credits
 (May be repeated for a total of four credits) Topical study with a varied array of disciplinary input. Staffing will be invited members of allied and contributing professions active in management of exception children.

832 SEMINAR: SPECIAL EDUCATION CURRICULUM PLANNING 3 credits
 Prerequisite: certification in an area of special education. Study of curriculum planning practices unique to special education classes and services. Appropriate curriculum objectives for selected areas of instruction as well as effective organizational programs examined.

833 SEMINAR: SUPERVISING SCHOOL COUNSELORS 3 credits
 Prerequisite: permission of major doctoral advisor and department chair. Study, design and analysis of counseling problem.

870 INDEPENDENT READING AND/OR RESEARCH IN EARLY CHILDHOOD SPECIAL EDUCATION 1-3 credits
 Prerequisite: permission of instructor. (May be repeated) Prerequisite: permission of instructor. Independent readings and/or supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications. Credit/No credit.

871 SEATING IN SPECIAL EDUCATION 3 credits
 Prerequisites: admission to graduate program in special education and 5170/540. An examination of qualitative and quantitative research/methodology and its application to the field of special education. Applied research is an essential component of the course.

872 CHARACTERISTICS AND NEEDS OF INDIVIDUALS DEMONSTRATING PERSPIRATIVE DEVELOPMENTAL DISORDERS 3 credits
 This course provides a survey of the etiology, diagnoses, characteristics, and needs of individuals with pervasive developmental disorders.

873 PROGRAMMING ISSUES FOR INDIVIDUALS WITH PERVERSIVE DEVELOPMENTAL DISORDERS 3 credits
 This course provides the educator with a comprehensive examination of the educational practices and intervention strategies necessary for providing interventions for demonstrating pervasive developmental disorders.

875 CHARACTERISTICS AND NEEDS OF INDIVIDUALS WITH BEHAVIORAL AND EMOTIONAL DISORDERS 3 credits
 This course provides a survey of the etiology, diagnoses, classification, and developmental characteristics of individuals with behavioral and emotional disorders.

880 SEMINAR: LEGAL ISSUES IN SPECIAL EDUCATION 3 credits
 Prerequisites: admission to graduate program in special education and 5170/540. A seminar designed to study, examine and reflect upon the legal aspects of historical and current trends, issues and practices.

881 SEMINAR: SOCIAL/ETHICAL ISSUES IN SPECIAL EDUCATION 3 credits
 Examining seminar for graduate students in special education designed to study, examine and reflect upon the social and ethical aspects of historical and current trends, issues and practices.

887 SPECIAL TOPICS IN SPECIAL EDUCATION 1-4 credits
 Prerequisite: Permission of advisor or department chair. In-depth examination of current critical research on issues in Special Education.

891 STUDENT TEACHING SEMINAR 1 credit
 Taken concurrently with Student Teaching. Review and discussion of issues raised during the field experience.

892 STUDENT TEACHING: SCHOOL AUDIOLOGY 6 credits
 Directed teaching under supervision of a special teacher and a University supervisor.

893 STUDENT TEACHING: SPEECH LANGUAGE PATHOLOGY 6 credits
 Directed teaching under supervision of a special teacher and a University supervisor.

894 RESEARCH PROJECT IN SPECIAL AREA (SCHOLARLY PAPER) 3 credits
 An in-depth study of an identified topic in a scholarly area.

895 FIELD EXPERIENCE: MASTER’S 1-4 credits
 (May be repeated) Prerequisite: successful completion of advanced practicum. Field experience supervising graduate students in counseling.

896 INDEPENDENT STUDY 1-3 credits
 (May be repeated) Prerequisite: permission of instructor. Independent readings and/or supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications. Credit/No credit.

897 MASTER’S PROBLEM 2-4 credits
 In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in special education.
### Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5620:</td>
<td>SCHOOL PSYCHOLOGY</td>
<td>3 credits</td>
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<tr>
<td>690</td>
<td>SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST</td>
<td>3 credits</td>
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<tr>
<td>691</td>
<td>COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE EDUCATIONAL PLANNING</td>
<td>3 credits</td>
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<tr>
<td>692</td>
<td>BEHAVIORAL ASSESSMENT</td>
<td>3 credits</td>
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<tr>
<td>693</td>
<td>CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY</td>
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<tr>
<td>694</td>
<td>EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS</td>
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<tr>
<td>696</td>
<td>PRACTICUM IN SCHOOL PSYCHOLOGY</td>
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<tr>
<td>698</td>
<td>MASTER’S THESIS</td>
<td>3 credits</td>
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<tr>
<td>699</td>
<td>FIELD SEMINAR I: CURRENT PROFESSIONAL TOPICS/ISSUES IN SCHOOL PSYCHOLOGY</td>
<td>3 credits</td>
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<tr>
<td>700</td>
<td>FIELD SEMINAR II: LOW INCIDENCE/RELATED INQUIRIES</td>
<td>3 credits</td>
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<tr>
<td>701</td>
<td>RESEARCH PROJECT IN SPECIAL AREAS</td>
<td>1-3 credits</td>
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<tr>
<td>702</td>
<td>INDEPENDENT STUDY</td>
<td>1-3 credits</td>
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<tr>
<td>703</td>
<td>MASTER’S PROBLEM</td>
<td>2-4 credits</td>
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<tr>
<td>704</td>
<td>MASTER’S THESIS</td>
<td>4-6 credits</td>
</tr>
<tr>
<td>5800:</td>
<td>SPECIAL EDUCATIONAL PROGRAMS</td>
<td>1-3 credits</td>
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<tr>
<td>590</td>
<td>WORKSHOP IN ECONOMIC EDUCATION OR SOCIAL STUDIES</td>
<td>1-3 credits</td>
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<tr>
<td>591</td>
<td>WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE</td>
<td>1-3 credits</td>
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### Business Administration

#### ACCOUNTANCY

<table>
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<tr>
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<tbody>
<tr>
<td>6200:</td>
<td>ADVANCED ACCOUNTING</td>
<td>3 credits</td>
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<tr>
<td>520</td>
<td>TAXATION I</td>
<td>3 credits</td>
</tr>
<tr>
<td>530</td>
<td>TAXATION II</td>
<td>3 credits</td>
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<tr>
<td>540</td>
<td>AUDITING</td>
<td>3 credits</td>
</tr>
<tr>
<td>554</td>
<td>INFORMATION SYSTEMS SECURITY</td>
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#### ACCOUNTING

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<tbody>
<tr>
<td>630</td>
<td>PRINCIPLES OF ACCOUNTING</td>
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<tr>
<td>640</td>
<td>ADVANCED ACCOUNTING</td>
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<tr>
<td>650</td>
<td>TAX ACCOUNTING</td>
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<tr>
<td>660</td>
<td>GOVERNMENTAL AND INSTITUTION ACCOUNTING</td>
<td>3 credits</td>
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<tr>
<td>670</td>
<td>SPECIAL TOPICS IN ACCOUNTING</td>
<td>1-3 credits</td>
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<tr>
<td>680</td>
<td>ACCOUNTING DECISION SUPPORT SYSTEMS</td>
<td>3 credits</td>
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<tr>
<td>690</td>
<td>APPLICATIONS DEVELOPMENT FOR FINANCIAL SYSTEMS</td>
<td>3 credits</td>
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<tr>
<td>691</td>
<td>ACCOUNTING SYSTEMS AND ENTERPRISE INTEGRATION</td>
<td>3 credits</td>
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<tr>
<td>692</td>
<td>PROCESS ANALYSIS AND COST MANAGEMENT</td>
<td>3 credits</td>
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<tr>
<td>693</td>
<td>ERP AND FINANCIAL DATA COMMUNICATIONS</td>
<td>3 credits</td>
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<tr>
<td>694</td>
<td>CORPORATE ACCOUNTING AND FINANCIAL REPORTING I</td>
<td>3 credits</td>
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<tr>
<td>695</td>
<td>CORPORATE ACCOUNTING AND FINANCIAL REPORTING II</td>
<td>3 credits</td>
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<tr>
<td>696</td>
<td>SURVEY OF FEDERAL TAXATION</td>
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<td>CORPORATE TAXATION I</td>
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<td>699</td>
<td>ESTATE AND GIFT TAXATION</td>
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<td>700</td>
<td>CONTEMPORARY ACCOUNTING ISSUES</td>
<td>3 credits</td>
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<tr>
<td>701</td>
<td>CONTINUING EDUCATION: NON-FINANCIAL WORK</td>
<td>3 credits</td>
</tr>
<tr>
<td>702</td>
<td>ADVANCED AUDITING</td>
<td>3 credits</td>
</tr>
<tr>
<td>703</td>
<td>TAXATION OF DECEDENTS, ESTATES AND TRUSTS</td>
<td>3 credits</td>
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<tr>
<td>704</td>
<td>ADVANCED INDIVIDUAL TAXATION</td>
<td>3 credits</td>
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<tr>
<td>705</td>
<td>CONSOLIDATED TAX RETURNS</td>
<td>3 credits</td>
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<tr>
<td>706</td>
<td>QUALIFIED PENSIONS AND PROFIT SHARING</td>
<td>3 credits</td>
</tr>
<tr>
<td>707</td>
<td>TAX PRACTICE AND PROCEDURE</td>
<td>3 credits</td>
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<tr>
<td>708</td>
<td>STATE AND LOCAL TAXATION</td>
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</tr>
</tbody>
</table>

### Additional Notes

- Courses may be repeated with a change of subject but not to exceed 6 credits.
- Prerequisites and prerequisites for some courses are listed as needed.
- Some courses may have additional readings required.
- Specific focus areas may be applied to financial problems of firms.
- Course content may vary, focusing on information systems, security, and data in business environments.
- Course descriptions may include topics such as auditing, tax planning, and financial management.

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**Business Administration**

#### ACCOUTANCY

- **Advanced Accounting**
- **Taxation**
- **Auditing**
- **Information Systems Security**

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**Accounting**

- **Financial Accounting**
- **Special Topics in Accounting**
- **Accounting Decision Support Systems**
- **Applications Development for Financial Systems**
- **Financial Data Communications and Enterprise Integration**
- **Process Analysis and Cost Management**
- **ERP and Financial Data Communications**
- **Corporate Accounting and Financial Reporting I**
- **Corporate Accounting and Financial Reporting II**
- **Survey of Federal Taxation**
- **Corporate Taxation I**
- **Estate and Gift Taxation**
- **Contemporary Accounting Issues**
- **Advanced Auditing**
- **Taxation of Decedents, Estates and Trusts**
- **Advanced Individual Taxation**
- **Consolidated Tax Returns**
- **Qualified Pensions and Profit Sharing**
- **Tax Practice and Procedure**
- **State and Local Taxation**

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**Additional Notes**

- Some courses may be repeated with a change of subject but not to exceed 6 credits.
- Prerequisites and prerequisites for some courses are listed as needed.
- Specific focus areas may be applied to financial problems of firms.
- Course content may vary, focusing on information systems, security, and data in business environments.
- Course descriptions may include topics such as auditing, tax planning, and financial management.
650 ESTATE PLANNING
Prerequisite: 633. Considers entire process of planning the estate with due regard for disposition of personal property, tax consideration, liquidity requirements and administrative costs. 2 credits

651 INTERNATIONAL TAXATION
Prerequisite: 631. 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. 3 credits

652 TAX-EXEMPT ORGANIZATIONS
Prerequisite: Admission to Master of Tax program or special permission. Analysis of tax aspects relating to exempt organizations, including nature of and limitations of its exemptions. 3 credits

654 INDEPENDENT STUDY IN TAXATION
Prerequisite: permission of instructor. Intensive study of particular topic or limited number of topics not otherwise offered in curriculum. (May be repeated for a total of six credits.) 1-3 credits

655 ADVANCED INFORMATION SYSTEMS
Prerequisites: 603 or equivalent and 610. Advanced study of accounting information system theory, elements, principles, design and implementation. Practical data processing and networks to control flow of information. 3 credits

656 ENTERPRISE RISK ASSESSMENT AND ASSURANCE
Prerequisite: 601 or equivalent and 610 or equivalent. An examination of the unique risks, controls, and assurance services resulting from and related to the e-business environment. 3 credits

659 ASSURANCE SERVICES AND DATA MINING
Prerequisite: 603 or equivalent. Application of data mining and quantitative techniques to fraud risk assessment, error detection, financial distress, going concern, and information risk assessment and a project management module completed in the final semester of the MSA program. 3 credits

660 ACCOUNTING AND ASSURANCE PROJECT
Prerequisites: 601, 602, and 610. This course involves an in-depth study of Subchapter S of the Internal Revenue Code. 3 credits

662 S CORP TAXATION
Prerequisite: 601. This course involves an in-depth study of Subchapter S of the Internal Revenue Code. 3 credits

670 CORPORATE PERFORMANCE EVALUATION AND CONTROL SYSTEMS
Prerequisite: 601. Investigation of the role of financial information systems in developing strategy, planning, measuring results, and motivating managers to define and pursue organizational goals and objectives. 3 credits

680 INTERNATIONAL ACCOUNTING
Prerequisites: 601. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting problems. 3 credits

683 SELECTED TOPICS IN TAXATION
Prerequisites: 631. Provides study in current taxation issues that are not covered in previous courses. 3 credits

685 GRADUATE INTERNSHIP IN ACCOUNTING
Prerequisites: 601, 621, 610, and 659. This course provides an opportunity for graduate accounting students to apply classroom instruction to practice problems in a professional working environment. 3 credits

686 INDEPENDENT STUDY IN ACCOUNTING
(1-3 credits) Focus on special topics of study and research in accounting on an independent basis. (May be repeated for a total of six credits). 1-3 credits

ENTREPRENEURSHIP

640 FINANCING THE ENTREPRENEURIAL VENTURE
Prerequisite: 650.508. Exploration of financing, legal, taxation, and insurance issues involved with entrepreneurial ventures. 3 credits

670 MANAGING ENTREPRENEURIAL GROWTH
Prerequisites: 650.508 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. 3 credits

FINANCE

538 INTERNATIONAL BANKING
Prerequisite: 371 or 602. Examination of recent trends in the expansion of international banking activities and associated revenue maximizing strategies. 3 credits

602 MANAGERIAL FINANCE
Prerequisite: 6200:601 or equivalent. 6400:602 may be taken concurrently with 6200:601. Emphasis on financial decision making related to goal of firm; specifically, the investment decision, the financial decision and the dividend decision. 3 credits

623 LEGAL ASPECTS OF BUSINESS TRANSACTIONS
(Not open to students with six credits of undergraduate business law.) Advanced legal analysis of contracts, UCC, debtor-creditor relationships, business organizations, property, and government regulation. 3 credits

631 FINANCIAL MARKETS AND INSTITUTIONS
Prerequisite: 602 or equivalent. A study of major financial markets and financial institutions with an emphasis on the decision making processes within a rapidly changing, but regulated financial environment. 3 credits

645 INVESTMENT ANALYSIS
Prerequisite: 602 or equivalent. Study of the economic and market forces that influence security prices. Techniques of analysis used in evaluating limited income and equity securities. 3 credits

650 TECHNIQUES OF FINANCIAL MODELING
Prerequisites: 3250:600 and 6400:602. Current techniques and methods of financial analysis are examined, including the use of financial models for short and long run probability decision. 3 credits

655 GOVERNMENT AND BUSINESS
Public policy with regard to business institutions and issues are considered from an economical, legal, ethical, political framework. 3 credits

674 STRATEGIC FINANCIAL DECISION MAKING
Prerequisite: 602. Examines the role of financial decision makers as strategic consultants to other business unit functions with integrative risk management as a unifying theme. 3 credits

678 CAPITAL BUDGETING
Prerequisite: 602 or equivalent. Attempt to integrate various theories of capital budgeting into comprehensive conceptual framework. Theoretical concepts and practical applications blended for better understanding of capital problems. 3 credits

681 MULTINATIONAL CORPORATE FINANCE
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational operations. Considerations include management of working capital and permanent assets, return on investment and capital budgeting for the global firm. 3 credits

685 E-BUSINESS: LEGAL ISSUES
Study of the application of law to emerging electronic commerce form of business with concentration on emerging law and policy. 3 credits

686 E-BUSINESS: FINANCIAL STRATEGY AND PLANNING
Prerequisite: minimum of six credits of E-Business foundation courses. Study of financial issues and strategies relating to analysis, planning, long and short term financing, and management of E-Business projects. 3 credits

690 SELECTED TOPICS IN FINANCE
May be repeated for a total of six credits. (Prerequisite 602 or equivalent.) Provides study of current topics and areas not covered in current finance graduate courses. 3 credits

691 INTERNATIONAL MARKETS AND INVESTMENTS
Prerequisites: 602 or equivalent. A study of international financial markets with an emphasis on international investments and risks in a rapidly changing global economy. 3 credits

697 INDEPENDENT STUDY IN FINANCE
(1-3 credits) May be repeated for a total of six credits. Focus on special topics of study and research in finance on an independent basis. 1-3 credits

698 INDEPENDENT STUDY: BUSINESS LAW
(1-3 credits) May be repeated for a total of six credits. Focus on special topics of study and research in the legal aspects of business administration. 1-3 credits

MANAGEMENT

533 SUPPLY CHAIN LOGISTICS PLANNING
Prerequisite: 675. Emphasizes the importance of planning in the development of the domestic and global supply chain logistics system that includes transportation, inventory, warehousing, and procurement. 3 credits

571 MANAGEMENT PROJECT
Prerequisite: 670. Students develop skills in field-based management problem solving, project management, and requirements analysis under conditions of uncertainty in a collaborative interdisciplinary team environment. 3 credits

576 SUPPLY CHAIN SOURCING
Prerequisite: 675. Introduction to the student to fundamental sourcing concepts as well as the scope of responsibility and critical role of the sourcing function within the principal organization in a supply chain network. 3 credits

580 INTRODUCTION TO HEALTH-CARE MANAGEMENT
Prerequisite: graduate standing. Introductory course for health professionals covering principles and concepts of management applied to health services organizations. For those registered for graduate credit, a major paper is required. 3 credits

582 HEALTH SERVICES OPERATIONS MANAGEMENT
Prerequisite: 580 or 601 or equivalent or permission of instructor. Application of operations and systems analysis to health services organizations. 3 credits

585 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION
Prerequisite: permission of instructor. Special topics in health services administration (e.g., management focusing on historical and/or contemporary organisational and/or policy/strategy issues as related to health-care organizations and health-care systems. Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required. 3 credits

600 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR
Prerequisites: 602 or 621. Undergraduate students with six credits of comparable management courses may enroll for graduate credit (by permission of instructor). 3 credits

601 QUANTITATIVE DECISION MAKING
Prerequisites: 602 or equivalent. An overview of decision making principles, concepts, methods and tools for use in management accounting applications. 3 credits

602 COMPUTER TECHNIQUES FOR MANAGEMENT
Prerequisite: graduate standing. Introductory course for health professionals covering principles and concepts of management applied to health services organizations. For those registered for graduate credit, a major paper is required. 3 credits

605 BUSINESS APPLICATIONS DEVELOPMENT
Prerequisite: 580 or 600 or equivalent or permission of instructor. Application of operations and systems analysis to health services organizations. 3 credits

620 E-BUSINESS FOUNDATIONS
Provides an understanding of the foundation of Electronic Business focusing on business and application issues. 3 credits

622 E-BUSINESS TECHNOLOGIES
Prerequisite: 602 or 620. This course provides a foundation in internet related technologies for successfully managing an e-business. Students will be required to design and implement a functional e-business prototype. 3 credits

624 SYSTEMS SIMULATION
Prerequisites: 600, 602, 603. Manufacturing or service sector systems are analyzed and modeled on a computer. Experimental designs, statistical significance of results, model verification and validation will be discussed. 3 credits

643 ANALYSIS AND DESIGN OF BUSINESS SYSTEMS
Prerequisite: 602 or 6200:6203. A hands-on treatment of the methods used to develop different types of business information systems. 3 credits

644 KNOWLEDGE MANAGEMENT AND BUSINESS INTELLIGENCE
Prerequisites: 602, 621 and 630 or 660. A study of the technologies of Business Intelligence (data warehouses, data mining, portals) and how organizations successfully manage the creation, sharing, transfer, and exploitation of knowledge.
657 THE LEADERSHIP ROLE IN ORGANIZATIONS  3 credits
Prerequisite: 600 or equivalent. A broad survey of the fundamental principles, research findings, and practices related to the acquisition, development, maintenance and effective utilization of a business firm's human resources.

658 MANAGEMENT OF ORGANIZATIONAL TRANSFORMATION  3 credits
Prerequisite: 600 or equivalent. A comprehensive study of innovations in organizations designed to increase human satisfaction and productivity through changes in human management.

659 ORGANIZATIONAL BEHAVIOR  3 credits
Prerequisite: 600 or equivalent. Study of factors which influence human behavior in business organizations. Emphasis on theories of individual and group behavior, motivation, leadership and communication in organizations.

660 ORGANIZATIONAL THEORY  3 credits
Prerequisite: 600. Examines the structure, design and overall effectiveness of a business organization from a macro-perspective.

661 MANAGEMENT OF ORGANIZATIONAL CONFLICT  3 credits
Prerequisite: 600 or equivalent. Course emphasizes understanding that the organization benefits from managable conflicts that occur and promote skills in diagnosis, negotiation, and building trust and cooperative working relationships in organizations.

662 COMPENSATION AND PERFORMANCE MANAGEMENT  3 credits
Prerequisite: 600 or equivalent. The development and analysis of systems of payments and new compensation and incentive plans for business organizations with special attention placed on performance evaluation methods and productivity enhancement.

663 MANAGEMENT OF GLOBAL SUPPLY CHAIN AND OPERATIONS  3 credits
Prerequisite: 600 or equivalent. Study and explore the elements and issues related to globalization of supply chain, production, and service operations.

664 THE LEADERSHIP ROLE IN ORGANIZATIONS  3 credits
Prerequisite: 600. Analysis and development of leadership theory and thought. Identification of leaders in both formal and informal organizations. Training and development methods of leaders evaluated. Individual and small group field study assignments.

665 STRATEGIC AND GLOBAL HUMAN RESOURCES MANAGEMENT  3 credits
Prerequisite: 600 or equivalent. The formulation, design and implementation of human resource practices designed to generate competitive cost advantages for business firms operating in domestic and/or international markets.

666 INTERNATIONAL HUMAN RESOURCE MANAGEMENT  3 credits
Prerequisite: 600. A survey course focused on the identification, analysis, and resolution of human resource problems in business firms with global operations.

667 STAFFING AND EMPLOYMENT REGULATION  3 credits
Prerequisite: 600 or equivalent. Design and implementation of staffing practices and systems for businesses with an emphasis on the implications of federal regulations on the staffing function.

668 SUPPLY CHAIN ANALYSIS  3 credits
Prerequisite: 675. Application of quantitative models in the analysis and design of systems in the supply chain and in manufacturing and service operations environments.

669 DATA ANALYSIS FOR MANAGERS  3 credits
Prerequisite: 601 or equivalent. Design, evaluation and interpretation of research in business and management. Integrates quantitative and behavioral concepts and processes encountered in conducting such research, including ethical issues.

670 APPLIED INDUSTRIAL STATISTICS  3 credits
Prerequisite: 601 or equivalent. Applications of multiple regression including determining the "best" set of independent variables, correlation models, analysis of variance models including multivariate models. Experimental designs including randomized block and Latin square designs.

671 MANAGEMENT OF TECHNOLOGY  3 credits
Survey of the principles and management practices of technology driven organizations are discussed with concepts, models and case studies for managers of technology intensive operations.

672 POLYMER MANAGEMENT DECISIONS  3 credits
Integrating key factors in major and minor processes, production, and uses of polymers in an easy-to-comprehend interdisciplinary instructional way. Industrial case studies help integrate the "big picture" with technology management related decisions.

673 MANAGEMENT OF OPERATIONS  3 credits
Prerequisites: 600, 601, 602, or equivalent. An overview of the issues directly related to the management of operations at the strategic, tactical, and operational levels of the organization.

674 BUSINESS PRODUCTIVITY TECHNIQUES  3 credits
Prerequisite: 601. An introduction to statistical process control (SPC), material requirements planning (MRP), just-in-time (JIT) inventory control and management of the program.

675 SUPPLY CHAIN MANAGEMENT  3 credits
Prerequisite: 600. Focuses on the integration of activities and information/material flows across multiple organizations that comprise the supply chain, and the relationships among those organizations.

676 PROJECT MANAGEMENT  3 credits
Prerequisite: 600, 601, 602. Provides working knowledge of tools and methods available to project managers including computerized analysis of network models to aid in the planning and control functions.

677 HEALTH SERVICES SYSTEMS MANAGEMENT  3 credits
Prerequisite: 600 or 601 or equivalent or permission of instructor. Study of health services organizations, comparative delivery systems, the roles of third-party payers and government policies and care. Seminar format major research paper required.

678 HEALTH SERVICES RESEARCH PROJECT  3 credits
Prerequisites: 680 or permission of instructor. In-depth field study in health services administra-
tion with applications of research and analysis skills. Course requires review of literature and a major research paper.

679 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION  13 credits
May not be repeated for more than three credits. Prerequisites: 580 or 600 or equivalent or permission of instructor. Independent study and research of a special topic of interest in health services administration (e.g., management), chosen by the student in consultation with and under the supervision of the instructor.
### Fine & Applied Arts

#### ART

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### FAMILY AND CONSUMER SCIENCES

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*Overview of the issues, trends, and social policies affecting American families living in poverty.*
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**GRADUATE COURSES**

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**600 FAMIL Y DYNAMICS**

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**607 FAMIL Y INDUSTRY: ANALYSIS AND FIELD STUDY**

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2 credits
Prerequisite: 122 or permission of instructor. A survey and evaluation of available software in the field of music technology. Students will design a course suitable for a programmer.

2 credits
Prerequisites: 261 and 442 or permission. Baton techniques and problems relating to practice, reading and preparation, organization of ensembles, programming, conducting large instrumental ensembles. One hour lab required.

2 credits
Prerequisites: permission of instructor. Conduction techniques to the choral ensemble, including choral literature, error detection, tonal development, stylistic accuracy and analysis. One hour lab required.

2 credits
Prerequisites: permission of instructor. Survey of organ literature of all eras and styles, and of methods of teaching organ, applying principles to literature.

2 credits
Prerequisite: permission of instructor. Study in depth of the four bowed string instruments, their teaching and close relationship. Despite obvious difference in physical application of cello and viola, from violin and viol, methods of bowing, sound production and coloring are closely related. Application of the instruments to solo, chamber and orchestral playing.

2 credits
Prerequisite: permission of instructor. A systematic analysis of prevailing schools of organ pedagogy, sound production psychology, method books and special problems in teaching addressed.

2 credits
Prerequisite: permission of instructor. After comparative analyses of selected examples, student make original solo guitar arrangements of works written for other solo instruments.

2 credits
Prerequisite: permission of instructor. Study of plucked, fretted, string instruments from the 14th century to the 18th century. Concepts of construction, notation, literature, and performance practices. Modern editions and recordings evaluated.

2 credits
A survey of choral repertoire in terms of general structure, character, voice, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

3 credits
A study of the repertoire in terms of general structure, character, voice, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

2 credits
A study of the repertoire in terms of general structure, character, voice, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

3 credits
Prerequisite: permission of instructor. A survey of choral repertoire in terms of general structure, character, voice, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

2 credits
A study of the repertoire in terms of general structure, character, voice, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

3 credits
A study of the repertoire in terms of general structure, character, voice, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

2 credits
Prerequisite: permission of instructor. Study of Rehabilitation methods of teaching organ, applying principles to literature.

3 credits
Graduate student must fulfill additional requirements.

2 credits
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 choral composers of nine centuries.

2 credits
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.

2 credits
Prerequisite: permission of instructor. In-depth study of the methods and materials as they relate to the teaching of jazz improvisation.

3 credits
Prerequisites: a minimum of one course in the 615-618 series. A systematic study of analytic methods of teaching organ, applying principles to literature.

3 credits
Prerequisites: permission of instructor. Study of Rehabilitation methods of teaching organ, applying principles to literature.

2 credits
Prerequisite: permission of instructor. In-depth study of subjects dealing with teaching of voice: physiology of the voice, speech and diction, ensemble literature for voices from operatic, oratorio and lieder repertoires.

2 credits
Prerequisites: permission of instructor. Methodology of theory teaching in 20th Century. Focus on differing philosophies of approach to theory instruction as noted from tests on subject. Recent innovations and techniques of teaching, such as programmed material, computer-assisted instruction studied.

2 credits
Prerequisites: a minimum of one course in the 656-658 series. A systematic study of analytic techniques in music which make use of the computer. Hands-on experiences with music recording, card manipulation, interactive, systems and program writing as related to music analysis.

2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music of Middle Ages and Renaissance. Research and writing in areas of special interest.

2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Baroque music; study in depth of specific examples, from recordings, scores and live performances; continuation and synthesis of approaches normal to study of music history; selected readings related to teacher's student's particular fields of interest; project papers.

2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of classic and romantic music in depth of specific examples, through recordings, scores and live performances; continuation and synthesis of approaches normal to study of music history; selected readings related to teacher's student's particular fields of interest; project papers.

3 credits
Prerequisite: permission of instructor. Introduction to programming languages for the microcomputer including FORTRAN, COBOL, and BASIC. Recent innovations and techniques of teaching such as programmed material, computer-assisted instruction studied.

2 credits
Prerequisite: permission of instructor. In-depth study of the methods and materials as they relate to the teaching of jazz improvisation.

2 credits
Prerequisite: permission of instructor. The University Symphonic Band is the most select band at the University. Major conducted ensemble.

3 credits
Prerequisite: permission of graduate advisor. Research related to the completion of the master's thesis, project, or recital document written in conjunction with the graduate recital, depending on the student's degree option.

2 credits
Prerequisite: permission of graduate advisor. Research related to the completion of the master's thesis, project, or recital document written in conjunction with the graduate recital, depending on the student's degree option.

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Prerequisite: permission of graduate advisor. Research related to the completion of the master's thesis, project, or recital document written in conjunction with the graduate recital, depending on the student's degree option.
606 BRASS ENSEMBLE  1 credit
Membership by audition. Study and performance of literature for brass ensemble from all peri-
doits of music history. Frequent public concerts. For advanced brass players.

607 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.

608 OPERA WORKSHOP  1 credit
Membership by audition. Musical and dramatic group study of excerpts from operatic reper-
toire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.

609 PERCUSSION ENSEMBLE  1 credit
Membership by audition. Study and performance of literature for various percussion groups; develops skill in ensemble performance.

610 WOODWIND ENSEMBLE  1 credit
Membership by audition. Study and performance of woodwind literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of wood-
wind literature.

614 KEYBOARD ENSEMBLE  1 credit
Involves three hours a week of accompanying. Keyboard major required to enroll for at least three years. Music education major may substitute another musical organization for one year.

615 JAZZ ENSEMBLE  1 credit
Membership by audition. Provides experience in jazz ensemble performance. A student is assumed to have knowledge of rudiments of music and some experience in jazz ensemble performance.

618 SMALL ENSEMBLE-MIXED  1 credit
Orchestrated Ensemble, Banque Ensemble and Contemporary Music Ensemble. Each is a group of diverse instruments which rehearse and performs a selected body of music.

620 CONCERT CHOIR  1 credit
Membership by audition. High select mixed choir. Performs classical literature from all peri-
doits, Campus, regional, and tour performances. “Major conducted ensemble” for vocal majors.

621 UNIVERSITY SINGERS  1 credit
Membership by audition. Mixed ensemble devoted to performance of a wide variety of choral literature from classical to popular. “Major conducted ensemble” for vocal majors.

625 CONCERT BAND  1 credit
Membership by Audition. Performs the finest in concert band literature available for concert bands today.

626 MARCHING BAND  1 credit
This organization is noted for its high energy performances a University football games. Enrollment is open to all members of the University student body.

627 BLUE AND GOLD BRASS  1 credit
The official band for Akron home basketball games. Membership is by audition.

628 UNIVERSITY BAND  1 credit
The University Band is open to all members of the University community and performs excel-
 lent standard band literature. All music majors are required to complete a placement audition each fall semester. Major conducted ensemble.

629 BLUE AND GOLD BRASS II  1 credit
The official band for Akron home ladies basketball games. Membership is by audition.

APPLIED MUSIC  7520:

521-569 APPLIED MUSIC FOR MUSIC MAJORS  2 or 4 credits each
The following courses are intended for a student majoring in one of the programs in the Department of Music. Courses levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully com-
pleting an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit
exists for the 400 level.

521 PERCUSSION
522 CLASSICAL GUITAR
523 HARP
524 VOICE
525 PIANO
526 ORGAN
527 VIOLIN
528 VIOLA
529 CELLO
530 STRING BASS
531 TRUMPET OR CORNET
532 FRENCH HORN
533 TROMBONE
534 BARITONE
535 TUBA
536 FLUTE OR PICCOLO
537 OBOE OR ENGLISH HORN
538 CLARINET OR BASS CLARINET
539 BASSOON OR CONTRABASSOON
540 SAXOPHONE
541 HARPISCHORD
542 PRIVATE LESSONS IN MUSIC COMPOSITION  2-4 credits each
May be repeated Prerequisites: 7500252 and permission of instructor. 7500252 recom-
mented Private instruction in composition. Primarily for student whose major is theory-com-
position.

569 JAZZ VOCAL STYLES
621-661 GRADUATE STUDY IN APPLIED MUSIC  2 or 4 credits each
May be repeated Prerequisites: undergraduate degree in music, graduate standing and/or permission of instructor determined through audition.

621 PERCUSSION

COMMUNICATION  7600:

500 HISTORY OF JOURNALISM IN AMERICA  3 credits
A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.

508 WOMEN, MINORITIES AND NEWS  3 credits
Study of images of women and minorities in U.S. news, along with the power women and minorities have as decision-makers in the news industry.

516 NEW MEDIA WRITING  3 credits
Prerequisite: 201 or permission of the instructor. This class will look at how today’s profes-
sonals practice online publishing. Students will work on writing and reporting skills need in New Media.

517 NEW MEDIA PRODUCTION  3 credits
Prerequisites: 315 or permission of the instructor and 516. Covers practical application of soft-
ware to create on-line multimedia documents and explores design ideas for New Media con-
tent.

520 MAGAZINE WRITING  3 credits
An advanced writing class designed to develop the specialized reporting, researching, and writing skills needed in consumer and specialized business magazines today.

550 COMMERCIAL ELECTRONIC PUBLISHING  3 credits
This class allows an in-depth investigation of the business and production principles of electronic publishing of magazines.

535 COMMUNICATION IN ORGANIZATIONS  3 credits
Overview of theories and approaches for understanding communication flow and practices in organizations, including interdepartmental, networks, superiors-subordinate, formal and infor-
mation communication.

536 ANALYZING ORGANIZATIONAL COMMUNICATION  3 credits
Prerequisite: 535 or permission. Methodology for ind depth analysis and application of com-
munication in organizations; team building, conflict management, communication flow. Indi-
vidual and group projects; simulations.

537 TRAINING METHODS IN COMMUNICATION  3 credits
Prerequisite: 534 or permission. Principles and concepts in the design and delivery of com-
munication training programs; integration of theory and methodology; presentation skills; matching methods and learner needs.

538 HEALTH COMMUNICATION  3 credits
This course presents an overview of health communication theory and research issues in interpersonal, small group, organizational, public relations, and mass media contexts.

554 THEORY OF GROUP PROCESSES  3 credits
Group communication theory and conference leadership as applied to individual projects and seminar reports.

557 PUBLIC SPEAKING IN AMERICA  3 credits
Survey and critical analysis of major speakers, speeches and speech movements in American history. Examines how style and content of American speaking influenced events and reflected their times.

559 LEADERSHIP AND COMMUNICATION  3 credits
Theories of leadership and communication across public, organizational, small group, interper-
sonal, and political contexts. Assessment tools provided. Guest speakers.
ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL

Theories of rhetoric: Study of key figures in history of rhetorical theory, stressing interrelationships among theories of rhetoric, intellectual climates and social climates.

Political communication: Students explore the relationship between politicians, citizens, and media. Topics include media coverage, campaign technologies, advertising, debates, engagement, rhetoric, and attitudes. Issues and methodologies are analyzed.

Film as art: An introduction to the film forum/3 credits
Explores the formal laws that govern a film acquiring the students with the film narrative and its stylistic elements.

Communication workshop: (May be repeated for a total of six credits) Group study or group projects investigating a particular phase of media not covered by other courses in curriculum.

Introduction to graduate study in communication: (3 credits) Introduces the the ideas and scholarship that constitute the various research interests in the department.

Empirical research in communication: (3 credits) An introduction to the techniques of empirical and quantitative research and their application in studies of mass media research topics.

Introduction to quantitative research in communication: (3 credits) Provides an overview of current techniques for inferring designs employing basic parametric and nonparametric descriptive and hypotheses testing statistical models in mass media communication.

Communication problems in the basic speech course: (1 credit) Designed to train a graduate student in methods and materials of introductory speech course. Required of all teaching graduate assistants.

Communication pedagogy: (3 credits) Familiarizes students with aspects of teaching communication and media courses at the college level.

Survey of communication theory: (3 credits) Studies the dimensions of field of communication: information analysis, social interaction and semantic analysis.

Theories of mass communication: (3 credits) Conceptual and historical overview of theory, research and problems of mass communication.

Contemporary public relations theory: (3 credits) Study and practical application of communication concepts, theories and skills relevant to public relations programs in businesses and nonprofit organizations.

International communication theory: (3 credits) Analysis of the impact on the communication process of cultural difference between communicators; examination of existing literature in intercultural communication.

Communication criticism: (3 credits) Introduces the basic elements, approaches and types of critical discourse as it is relevant to communication and mass media studies.

Graduate communication internship: (16 credits) (May be repeated for a total of six credits.) Prerequisites: must have attained the category of full admission and be in good standing in the School's graduate program; must receive permission of the program placement and research proposal. Provides communication graduate students with opportunity to obtain experience and to apply knowledge of academic concepts in a supervised work setting in the communication field.

Graduate communication studies: (3 credits) Special topics in communication in areas of particular faculty expertise. Consult department for particular topic each semester.

Graduate research in communication: (16 credits) (May be repeated for a total of six credits.) Prerequisites: 7800:600 and approval of project prospectus one term prior to undertaking the project. Performance of research on problems found in mass media communication.

Master's project/production: (16 credits) (May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

Master's thesis: (16 credits) (May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

Speech-language pathology and audiology: 7700:

Aspects of normal language development: (3 credits) (Not open to communicative disorders major) Introduction to acquisition and development of comprehension and production of language—phonologically, semantically and syntactically. Related language abilities and their perceptual development of child and looks at function of language in individual, family and school.

Augmentative communication: (3 credits) Prerequisites: 7800 or 43302 or permission of instructor. Overview augmentative communication systems-candidates, symbol systems, devices, vocabulary, funding. Consider interdisciplinary issues in assessment/confirmation.

Multicultural considerations for audiologists and speech-language pathologists: (2 credits) Prerequisite: 7700:110 or graduate standing. This course introduces the multicultural considerations by audiologists and speech-language pathologists providing services to families and individuals with communication disorders.

Speech-language and hearing disorders in the public schools: (2 credits) (May be repeated for 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: (4 credits) (May be repeated for a total of six credits.) Prerequisite: permission of School Director.

Basic and applied physical acoustics for audiology: (4 credits) Prerequisite: admission to the Au.D. program or permission of instructor. Study of physical acoustics, basic electricity and electronics, as well as principles, methodology, calibration and maintenance of audiological equipment included 1 credit hour lab.

Anatomy and physiology of the peripheral auditory and vestibular systems: (2 credits) Prerequisite: permission to audiology major. Study of the anatomy, biophysics, and physiology of the auditory and vestibular systems.

Acoustic phonetics: (3 credits) Prerequisite: admission to the Au.D. program or permission of instructor. Study of the acoustics, measurement, and nomenclature of speech sounds and theoretical and acoustic phonetics as related to speech perception and phonetics.

Critical analysis of research in audiology: (4 credits) Prerequisite: admission to the Au.D. program or permission of instructor. General introduction to the research process with an emphasis on acquiring a reading knowledge of research and an ability to evaluate research.

Auditory disorders: (2 credits) Prerequisite: permission to the Au.D. program or permission. Study of conditions/diseases that can affect the auditory system.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>706</td>
<td>ANATOMY AND PHYSIOLOGY UNDERLYING NEURO-OTOLGY</td>
<td>4</td>
<td>Prerequisite: 702. An in-depth study of the anatomy and physiology of the central auditory and vestibular nervous systems (includes 1 credit hour lab).</td>
</tr>
<tr>
<td>707</td>
<td>PSYCHOACOUSTICS</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Study of the principles, procedures, and research of psychoacoustics: the relationships between the physical dimensions of auditory stimuli and the resultant perceptual experience with normal and impaired hearing.</td>
</tr>
<tr>
<td>708</td>
<td>CRITICAL ANALYSIS OF RESEARCH II</td>
<td>2</td>
<td>Prerequisite: 704. Development of a reading knowledge of research and the ability to evaluate the quality of research studies.</td>
</tr>
<tr>
<td>709</td>
<td>AUDIOLOGIC ASSESSMENT</td>
<td>3</td>
<td>Theoretical basis for tests underlying basic audiologic assessments.</td>
</tr>
<tr>
<td>710</td>
<td>INDUSTRIAL AND COMMUNITY NOISE</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Theoretical principles of industrial and community noise stressing noise-induced hearing loss and acoustic trauma. Essential hearing conservation programs, Occupational Health and Safety Act; community and recreational noise evaluation and management.</td>
</tr>
<tr>
<td>711</td>
<td>SPEECH-LANGUAGE PATHOLOGY FOR THE AUDIOLOGIST</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Examination of normal and abnormal aspects of speech and language including their impact on auditory function and testing.</td>
</tr>
<tr>
<td>712</td>
<td>DIAGNOSIS OF AUDITORY DISORDERS</td>
<td>3</td>
<td>Prerequisite: 709. Underlying theory and principles of administration and interpretation of site-of-lesions tests.</td>
</tr>
<tr>
<td>713</td>
<td>HEARING AID TECHNOLOGY</td>
<td>4</td>
<td>Prerequisite: 701. Study of amplification systems for the hearing impaired.</td>
</tr>
<tr>
<td>714</td>
<td>GERONTOLOGICAL ISSUES IN AUDIOLOGY</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Physiological, psychological, and sociological theories of aging with a focus on the elderly, symptomatology, assessment, and rehabilitation of older adults with hearing impairments.</td>
</tr>
<tr>
<td>715</td>
<td>CENTRAL AUDITORY PROCESSING: EVALUATION AND MEASUREMENT</td>
<td>3</td>
<td>Prerequisites: 705 and 706. Study of auditory evaluation and habilitation/rehabilitation procedures for people having central auditory disabilities.</td>
</tr>
<tr>
<td>716</td>
<td>ADULT HEARING AID FITTING AND SELECTION</td>
<td>3</td>
<td>Prerequisite: 715. Examination of the theory and practice of fitting hearing aids. Emphasis on special clinical procedures, research needs, and evolving technology in hearing instruments (includes 1 credit hour lab).</td>
</tr>
<tr>
<td>717</td>
<td>PEDIATRIC AUDIOLOGY</td>
<td>3</td>
<td>Prerequisite: 709. Study of audiological and auditory habilitative protocols for the birth to 3 population. Both assessment and management strategies will be emphasized.</td>
</tr>
<tr>
<td>718</td>
<td>COCHLEAR IMPLANTS</td>
<td>2</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Study of cochlear implants in children and adults including equipment, candidacy, mapping, and overview of rehabilitation procedures.</td>
</tr>
<tr>
<td>719</td>
<td>COUNSELING IN AUDIOLOGY</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Focus on interviewing, assessing, and interacting with individuals with hearing impairments, their families, and significant others.</td>
</tr>
<tr>
<td>720</td>
<td>PEDIATRIC AMPLIFICATION</td>
<td>3</td>
<td>Prerequisites: 712, 716, 717. The focus of study is on amplification systems and fitting techniques for the pediatric population.</td>
</tr>
<tr>
<td>721</td>
<td>EVALUATION AND MANAGEMENT OF BALANCE DISORDERS</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Study of the balance mechanism; differential diagnostic assessment of balance disorders including electroyystagmography, posturography and rotational testing; rehabilitation of the balance disorders (includes 1 credit hour lab).</td>
</tr>
<tr>
<td>722</td>
<td>AUDIOLOGIC MANAGEMENT OF THE SCHOOL-AGED CHILD</td>
<td>3</td>
<td>Prerequisite: 717. Focus on educational audiology. Features delivery of audiological services designed to improve school success for children ages 4-21.</td>
</tr>
<tr>
<td>723</td>
<td>AUDIOLOGIC REHABILITATION OF ADULTS</td>
<td>3</td>
<td>Prerequisite: 716. Study of current methodologies employed in the audiological rehabilitation of adults with hearing impairments. Implementation of remedial strategies is emphasized.</td>
</tr>
<tr>
<td>724</td>
<td>HISTORY OF AUDIOLOGY</td>
<td>1</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. An examination of the history of deafness/hearing impairment and the profession of audiology.</td>
</tr>
<tr>
<td>725</td>
<td>MEDICAL MANAGEMENT OF AUDITORY DISORDERS</td>
<td>2</td>
<td>Prerequisite: 712. A study of the multidisciplinary approach to medical/surgical management of patients with auditory and vestibular disorders.</td>
</tr>
<tr>
<td>726</td>
<td>ELECTROPHYSIOLOGICAL TECHNIQUES IN AUDIOLOGY</td>
<td>3</td>
<td>Prerequisite: 706. Study of evoked responses used in diagnostic audiology, including ABR, MLR, ECochG, ENG, ALR, P300, VER, and SSER.</td>
</tr>
<tr>
<td>727</td>
<td>CULTURAL ISSUES IN DEAFNESS</td>
<td>2</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. An introduction to Deaf Culture and the audiologist’s roles and responsibilities in planning treatment with members of the deaf community.</td>
</tr>
<tr>
<td>728</td>
<td>SEMINAR IN AUDIOLOGY</td>
<td>2</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Selected current topics in audiology with emphasis on review of current literature. Course may be repeated up to six times.</td>
</tr>
<tr>
<td>729</td>
<td>RESEARCH PROJECT IN AUDIOLOGY</td>
<td>3</td>
<td>Prerequisite: admission to the Au.D. program or permission. Completion of a Doctoral Research Project including data collection, analysis, write-up, and oral presentation.</td>
</tr>
<tr>
<td>730</td>
<td>PRACTICE MANAGEMENT IN AUDIOLOGY</td>
<td>4</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Study of issues which impact the management of audiological practices, including establishing a private practice, reimbursement, marketing, record keeping and professional liability.</td>
</tr>
<tr>
<td>731</td>
<td>SEMINAR: SUPERVISED PROFESSIONAL EXPERIENCE</td>
<td>2-6</td>
<td>Credit: 750 or 751 or permission of instructor. In-depth consideration of topics in the practice of audiology with emphasis upon issues related to clinical rotation issues. Repeatable up to six times.</td>
</tr>
<tr>
<td>732</td>
<td>DIRECTED OBSERVATION IN AUDIOLOGY</td>
<td>1</td>
<td>Prerequisite: admission to the Au.D. program or permission of instructor. Introduction to clinical practicum in Audiology. Directed observation of clinical practice including audiological diagnosis and audiological rehabilitation are required. Repeatable up to six credits.</td>
</tr>
</tbody>
</table>

### SOCIAL WORK

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>SOCIAL WORK PRACTICE I</td>
<td>3</td>
<td>Prerequisite: 276 or permission of instructor. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families.</td>
</tr>
<tr>
<td>502</td>
<td>SOCIAL WORK PRACTICE II</td>
<td>3</td>
<td>Prerequisite: 401 or permission of instructor. Concepts and methods of social work practice particularly relating to understanding and working with groups in various settings in our society.</td>
</tr>
<tr>
<td>503</td>
<td>SOCIAL WORK PRACTICE III</td>
<td>3</td>
<td>Prerequisite: 401 or permission of instructor. Development of understanding and practice methods for utilization of community organization and social planning as social work process in assessing problems and developing programs to meet needs.</td>
</tr>
<tr>
<td>504</td>
<td>SOCIAL WORK PRACTICE IV</td>
<td>3</td>
<td>Prerequisite: 401 or permission of instructor. Professional social work practice with families in social services; the dynamics of family systems, assessment of family function and dysfunction, professional helping processes.</td>
</tr>
<tr>
<td>510</td>
<td>MINORITY ISSUES IN SOCIAL WORK PRACTICE</td>
<td>3</td>
<td>Prerequisite: 276 or permission of instructor. Must be taken prior to or concurrently with 402 and 403 of the other practice courses (402, 403, 404). Racial, ethnic and cultural issues in social work related to various practice and theoretical perspectives, to various types of social problems, service agencies and the role of the social worker in family, group, community and societal contexts integrated with the methodological processes of the social work practitioners.</td>
</tr>
<tr>
<td>511</td>
<td>WOMEN’S ISSUES IN SOCIAL WORK PRACTICE</td>
<td>3</td>
<td>Prerequisite: 276 or permission of instructor. Social worker’s code of ethics as applied to practice problems and social policy.</td>
</tr>
<tr>
<td>512</td>
<td>HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT I</td>
<td>3</td>
<td>Prerequisites: 427, 426 or permission of instructor; for 527: permission of instructor. Social work perspective on human development across the life cycle. Human diversity approach consistent with the needs of social work students preparing for practice.</td>
</tr>
<tr>
<td>513</td>
<td>HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT II</td>
<td>3</td>
<td>Prerequisites: 420, 427 or permission of instructor; for 520: permission of instructor. Social work perspective on human development across the life cycle. Human diversity approach consistent with the needs of social work students preparing for practice.</td>
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<td>514</td>
<td>SOCIAL WORK PRACTICE II</td>
<td>3</td>
<td>Prerequisite: 440, 441 or permission of instructor. Application of knowledge and principles of professional social work practice to understanding, development and provision of social services to meet needs of aging and later maturity individuals, families and communities and institutions serving them and their relatives.</td>
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<td>515</td>
<td>SOCIAL WORK IN CHILD WELFARE</td>
<td>3</td>
<td>Prerequisite: 276 or permission of instructor. In-depth exploration of structure and functioning of social services designed to help children, and of practice of social work in child-welfare settings: consideration of supportive, supplementary, and subservient services.</td>
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<tr>
<td>516</td>
<td>SOCIAL WORK IN MENTAL HEALTH</td>
<td>3</td>
<td>Prerequisite: 276 or permission of instructor. Issues, organization, development, and methodologies of current professional social work practice in mental-health settings.</td>
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<td>676</td>
<td>FISCAL MANAGEMENT OF SOCIAL AGENCIES</td>
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<td>673</td>
<td>STRATEGIES OF COMMUNITY ORGANIZATION</td>
<td>3</td>
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<td>671</td>
<td>COMMUNITY, ECONOMIC SYSTEMS AND SOCIAL POLICY ANALYSIS</td>
<td>3</td>
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<td>675</td>
<td>PROGRAM EVALUATION</td>
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<tr>
<td>672</td>
<td>COMMUNITY ORGANIZATION AND PLANNING</td>
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<td>FISCAL MANAGEMENT OF SOCIAL AGENCIES</td>
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<td>680</td>
<td>AGING AND SOCIAL WORK PRACTICE</td>
<td>3</td>
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<td>681</td>
<td>AGING: POLICIES AND PROGRAMS</td>
<td>3</td>
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<tr>
<td>682</td>
<td>SOCIAL WORK PRACTICE: FAMILY AND CHILDREN</td>
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<td>SOCIAL WORK PRACTICE: FAMILY AND CHILDREN</td>
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<td>689</td>
<td>ADVANCED PRACTICE AND POLICY IN SUBSTANCE ABUSE</td>
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<td>ADVANCED PRACTICE AND POLICY IN SUBSTANCE ABUSE</td>
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<tr>
<td>691</td>
<td>HEALTH CARE: PLANNING AND POLICIES</td>
<td>3</td>
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<tr>
<td>696</td>
<td>EPIDEMIOLOGIC ANALYSIS OF HEALTH AND SOCIAL PROBLEMS</td>
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**THEATRE:**

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<tr>
<td>567</td>
<td>CONTEMPORARY THEATRE STYLES</td>
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<td>570</td>
<td>THEATRE IN EDUCATION</td>
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<td>575</td>
<td>ACTING FOR THE MUSICAL THEATRE</td>
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<td>600</td>
<td>RESEARCH AND WRITING TECHNIQUES</td>
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<td>601</td>
<td>FOUNDATION FIELD PRACTICIAN</td>
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<td>603</td>
<td>SPECIAL TOPICS IN THEATRE ARTS</td>
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<td>ADVANCED FIELD PRACTICIAN</td>
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<td>SOCIAL WORK PRACTICE WITH SMALL SYSTEMS</td>
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<td>610</td>
<td>DYNAMICS OF RACISM AND DISCRIMINATION</td>
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<td>HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT SMALL SOCIAL SYSTEMS</td>
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<td>613</td>
<td>SOCIAL WELFARE POLICY</td>
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<td>614</td>
<td>SOCIAL POLICY II</td>
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<td>615</td>
<td>ADVANCED STANDING INTEGRATIVE SEMINAR</td>
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<td>616</td>
<td>SOCIAL WORK PRACTICE WITH GAYS AND LESBIANS</td>
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<td>617</td>
<td>PSYCHOPATHOLOGY AND SOCIAL WORK</td>
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<td>618</td>
<td>DIRECT PRACTICE RESEARCH</td>
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<td>619</td>
<td>SUPERVISION AND STAFF DEVELOPMENT</td>
<td>3</td>
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<td>620</td>
<td>SOCIAL WORK ADMINISTRATION</td>
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<td>HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT LARGE SYSTEMS</td>
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<td>625</td>
<td>HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT SMALL SOCIAL SYSTEMS</td>
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<td>626</td>
<td>SOCIAL WELFARE POLICY</td>
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124 The University of Akron 2006-2007
641 PROBLEMS IN DIRECTING
Advanced directing course with special emphasis on staging of complex plays from all per- 3 credits
spectives of dramatic literature.

645 SEMINAR IN DRAMATIC LITERATURE
Representative Western stage play (non-American) are examined in theatrical, historical, and 3 credits
critical/theoretical contexts.

653 WORKSHOPS
Advanced study of basic acting techniques, especially Stanislavski, through analysis and per- 3 credits
formance. Voice/Movement Lab required.

654 GRADUATE ACTING: PROBLEMS
Special problems confronting the advanced actor in various modern styles of performance 3 credits
Voice/Movement Lab required.

561 ADVANCED PHYSIOLOGICAL CONCEPTS IN HEALTH CARE I
Prerequisite: admission to MSN program. This course presents an in-depth study of physio- 3 credits
logical processes in the areas of neurologic, neuromuscular and cardiovascular physiology and
their interrelationship with therapeutic agents.

562 ADVANCED PHYSIOLOGICAL CONCEPTS IN HEALTH CARE II
Prerequisite: 561. This course presents an in-depth study of physiological processes in the areas 3 credits
of respiratory, renal and endocrine physiology and their interrelationship with therapeutic
agents.

569 SPECIAL TOPICS: NURSING
May be repeated as new topics are presented. Group studies of special topics in nursing. May 1-4 credits
not be used to meet requirements for the major in nursing. May be used for elective credit.

593 WORKSHOPS
(May be repeated as new topics are presented) May be used to meet undergraduate/graduate 1-4 credits
requirements at the discretion of the college.

609 THEORETICAL BASIS FOR NURSING
Prerequisite: admission to MSN program. Overview of extant nursing science. Evaluation and 3 credits
analysis of nursing conceptual models. Analysis of the relationships of theory, research, and
practice. Web-based course.

606 INFORMATION MANAGEMENT IN ADVANCED NURSING PRACTICE
Prerequisite: admission to MSN program, completion of Graduate Statistics, 613 or Corequise- 3 credits
site: 613. This course is focused on nursing informatics to support clinical decision making in
advanced practice and administration.

607 POLICY ISSUES IN NURSING
Prerequisite: admission to MSN program. Analysis of policy issues that impact on nursing and 3 credits
health care delivery to diverse populations. Examines methods to shape policy, and allocation of
resources. Web-based course.

608 PATHOPHYSIOLOGICAL CONCEPTS OF NURSING CARE
Prerequisite: admission to MSN program. In-depth study of pathological conditions and relat- 3 credits
ed treatment modalities. The course focuses on specific nursing interventions related to these
pathophysiologic abnormalities.

609 PATHOPHYSIOLOGY FOR NURSE ANESTHETISTS
Prerequisite: admission to graduate anesthesia program. Course focuses on pathophysiological 3 credits
abnormalities and their anesthetic implications. Normal anatomy and physiology, labs, diagno-
stic including selected major alterations of physiologic function and major anesthetic impli-
cations are covered.

610 ADVANCED ADULT/GERONTOLOGICAL ASSESSMENT WITH PRACTICUM
Prerequisite: admission to MSN program or permission of instructor. 608. Advanced adult/gero-
ntological assessment and clinical reasoning in primary health care nursing with introduction to
differential diagnosis and clinical management.

612 ADVANCED CLINICAL PHARMACOLOGY
Prerequisite: admission to graduate program, 608. Examines principles of pharmacology and 3 credits
therapeutics for major pharmacologic agents used by Advanced Practice Nurses to manage adult/gero-
ntological problems in primary health care settings.

613 NURSING INQUIRY I
Prerequisite: permission. Concepts and ethical issues related to scientific inquiry are examined, 3 credits
emphasizing the phases of the research process. Students participate in critical analysis of nursing
research.

614 NURSING INQUIRY II
Prerequisite: 613 or permission of instructor. Emphasis on development of competencies in 3 credits
scientific inquiry. Research practicum will involve at a pilot study; or bi participation in faculty
research.

620 ADULT/GERONTOLOGICAL HEALTH NURSING NP I PRACTICUM
Admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 610. Corequisite: 610. Research and theory integral to advanced nursing prac-
tice of adults/older adults/families with selected chronic health problems. Emphasis on
comprehensive assessment, health promotion, and risk reduction.

621 ADULT/GERONTOLOGICAL HEALTH NURSING NP II PRACTICUM
Prerequisite: 620, 621, 622, 626, 628, 629, 630, 631. Focuses on nursing care of adults, older 2 credits
adults in acute, subacute, and chronic illness states of the adult/older adult.

622 ADULT/GERONTOLOGICAL HEALTH NURSING NP III PRACTICUM
Prerequisite: admission to graduate program, 620, 621, 622, 626, 628, 629. Focuses on nursing care of 3 credits
middle aged/older adults and their families experiencing chronic illness. Emphasizes management of
problems common to chronic care and rehabilitation.

623 ADULT/GERONTOLOGICAL HEALTH NURSING NP PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 626, 629. Corequisite: 629, 630, 631. Practice with emphasis on in-depth analy-
so of problems common to chronic care and rehabilitation.

624 ADULT/GERONTOLOGICAL HEALTH NURSING NP IV PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 626, 629, 632, 634. Integration of knowledge and skills for a practice with emphasis on in-depth analy-
se of problems common to chronic care and rehabilitation.

625 ADULT/GERONTOLOGICAL HEALTH NURSING NP PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 626, 629, 632, 634. Practice with emphasis on in-depth analysis of problems common to chronic care and rehabilitation.

626 ADULT/GERONTOLOGICAL HEALTH NURSING NP II PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 626, 629, 632, 634. Practice with emphasis on in-depth analysis of problems common to chronic care and rehabilitation.

627 ADULT/GERONTOLOGICAL HEALTH NURSING NP II PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 620, 621. Practice with emphasis on in-depth analysis of problems common to chronic care and rehabilitation.

628 ADULT/GERONTOLOGICAL HEALTH NURSING NP III PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 620, 621. Practice with emphasis on in-depth analysis of problems common to chronic care and rehabilitation.

629 ADULT/GERONTOLOGICAL HEALTH NURSING NP IV PRACTICUM
Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cate program, 620, 621. Practice with emphasis on in-depth analysis of problems common to chronic care and rehabilitation.

630 RESOURCE MANAGEMENT IN NURSING SETTINGS
Prerequisite: Admission to Graduate Program or permission of instructor. Examines manage-
ent of fiscal resources in nursing service settings; analyses impact of econom-
ics and labor relations on health and nursing care.

632 FISCAL MANAGEMENT IN NURSING ADMINISTRATION
Prerequisite: Admission to Graduate Program or permission of instructor. Examines manage-
ent of fiscal resources in nursing service settings.
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<th>Course Code</th>
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<tr>
<td>650</td>
<td>BEHAVIORAL HEALTH NURSING I PRACTICUM</td>
<td>2 credits</td>
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<td>Prerequisite: 608. Corequisite: 661. Development of clinical competencies and therapeutic</td>
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<tr>
<td></td>
<td>approaches in the delivery of behavioral health care to individuals.</td>
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<tr>
<td>651</td>
<td>BEHAVIORAL HEALTH NURSING I</td>
<td>3 credits</td>
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<td>Prerequisite: admission to Behavioral Health track, 608. Corequisite: 660. Focuses on the</td>
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<td>theories, concepts, and techniques utilized in the delivery of behavioral health care to</td>
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<td>individuals. Theoretical frameworks for direct intervention are examined.</td>
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<tr>
<td>662</td>
<td>CLINICAL PSYCHOPHARMACOLOGY</td>
<td>3 credits</td>
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<td>Prerequisite: 608 or permission of instructor; corequisite: 612. Examines principles of</td>
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<td></td>
<td>neuroscience, pharmacology, and therapeutics for psychopharmacologic agents used to manage</td>
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<td>adult mental health problems in variety of treatment settings.</td>
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<td>663</td>
<td>BEHAVIORAL HEALTH NURSING INTERNSHIP</td>
<td>1-4 credits</td>
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<td>Prerequisites: 661, 665. Focuses on behavioral health interventions with families and groups.</td>
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<td>Theoretical frameworks for direct intervention are examined.</td>
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<td>664</td>
<td>BEHAVIORAL HEALTH NURSING II PRACTICUM</td>
<td>2 credits</td>
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<td>Prerequisites: 610, 660, 661. Development of clinical competencies in direct intervention</td>
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<tr>
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<td>therapies with families/groups experiencing the stress of actual or potential health problems.</td>
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<tr>
<td>665</td>
<td>BEHAVIORAL HEALTH NURSING II</td>
<td>3 credits</td>
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<td>Prerequisites: 610, 660, 661. Corequisite: 664. Focuses on advanced practice behavioral health</td>
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<td>nursing with families/groups experiencing the stress of actual or potential health problems.</td>
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<td>Theoretical frameworks for direct intervention are examined.</td>
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<tr>
<td>667</td>
<td>BEHAVIORAL HEALTH NURSING III</td>
<td>3 credits</td>
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<td>Prerequisites: 664, 665. Corequisite: 668. Focuses on consultation, collaboration and program</td>
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<td></td>
<td>development/marketing related to developmental and health behavior outcomes of children/adoles-</td>
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<td>cents. Frameworks for practice in psychiatric and non-psychiatric settings are discussed.</td>
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<tr>
<td>668</td>
<td>BEHAVIORAL HEALTH NURSING III PRACTICUM</td>
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<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in consulta-</td>
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<td>tion, collaboration, and program development in behavioral health nursing practice. Practice is</td>
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<td>in psychiatric and non-psychiatric settings.</td>
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<td>669</td>
<td>PRACTICUM: BEHAVIORAL HEALTH NURSING</td>
<td>6 credits</td>
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<td>Prerequisites: 664, 666. Integrates knowledge and skill related to behavioral health nursing.</td>
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<td>Focuses on application and implementation of programmatic interventions in behavioral health</td>
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<td>nursing practice.</td>
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<tr>
<td>671</td>
<td>ADULT/GERONTOLOGICAL HEALTH CNS I</td>
<td>2 credits</td>
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<td>Prerequisite: admission to Adul/Gerontological CNS track or permission, 608, 610, Corequisite-</td>
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<td></td>
<td>612. Research and application to advanced practice nursing care of adults/older adults with</td>
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<td>selected common health problems. Focus on implementation of secondary care interventions and</td>
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<td>promotion, assessment and risk reduction.</td>
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<td>675</td>
<td>ADULT/GERONTOLOGICAL HEALTH CNS II</td>
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<td>Prerequisites: 612, 671, 674. Corequisites: 612, 676. Focus on problems common to acute illness</td>
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<td>in adults/older adults in acute/episodic care settings. Multidisciplinary care planning and</td>
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<td>coordination are emphasized, including transition to community-based care .</td>
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<td>ADULT/GERONTOLOGICAL HEALTH CNS III</td>
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<td>Prerequisites: 612, 671, 674. Corequisites: 612, 676. Development of clinical competencies in</td>
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<td>care of adults/older adults with acute illness in acute/episodic care settings emphasizing mu-</td>
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<td>lidiopapillary care planning and coordination to transition to community-based care.</td>
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<td>677</td>
<td>ADULT/GERONTOLOGICAL HEALTH CNS IV</td>
<td>2 credits</td>
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<td>Prerequisites: 612, 671, 674. Corequisite: 612. Development of clinical competencies integral</td>
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<td>to advanced practice nursing of adults/older adults/families with selected common health</td>
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<td>problems with focus on comprehensive assessment, health promotion and risk reduction.</td>
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<td>ADULT/GERONTOLOGICAL HEALTH CNS VIII</td>
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<td>Prerequisites: 612, 675, 676. Corequisite: 677. Development of clinical competencies in care of</td>
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<td>adults/older adults and their families experiencing chronic illness. Emphasizes management of</td>
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<td>problems common to chronic care and rehabilitation.</td>
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<td>679</td>
<td>ADULT/GERONTOLOGICAL HEALTH CNS V I</td>
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<td>Prerequisites: Admittance to Adult/Gerontological Health Nursing Clinical Nurse Specialist</td>
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<td>track, 677, 678. Corequisites: 673. Integration of knowledge and skills with a specified popula-</td>
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<td>tion of adults and their families. Emphasis on implementation of programmatic interventions and</td>
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<td>evaluation.</td>
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<tr>
<td>681</td>
<td>INSTRUCTIONAL METHODS IN NURSING EDUCATION</td>
<td>3 credits</td>
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<tr>
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<td>Prerequisites: admission to the Advanced Role Preparation in Nursing Education certificate</td>
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<td>program. Study of a variety of instruction methods used in nursing education. Includes teach-</td>
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<td>ing and learning methods used in classroom, laboratory, and clinical settings.</td>
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<td>682</td>
<td>NURSING CURRICULUM DEVELOPMENT</td>
<td>3 credits</td>
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<td>Prerequisites: admission to the role of the Adul/Gerontological Nursing Education certificate</td>
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<td>program or permission of instructor. Examines curriculum development with a focus on teaching-</td>
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<td>learning strategies. Examines in process of developing a curriculum.</td>
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<td>683</td>
<td>EVALUATION IN NURSING EDUCATION</td>
<td>3 credits</td>
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<td>Prerequisite: admission to the Advanced Role Preparation in Nursing Education certificate program</td>
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<tr>
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<td>or permission of instructor. Application of principles of evaluation and measurement to situations</td>
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<td>in nursing education. Emphasizes evaluation as a process. Includes evaluation of teacher,</td>
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<td>learner and program.</td>
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<td>684</td>
<td>PRACTICUM: THE ACADEMIC ROLE OF THE NURSE EDUCATOR</td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Prerequisites: 681, 689, 695. Focuses on the role of a nurse educator.</td>
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<tr>
<td></td>
<td>Each student presents lecture content and provides clinical supervision to a group of students.</td>
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<tr>
<td>690</td>
<td>CLINICAL MANAGEMENT I</td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Prerequisites: admission to the Adult/Gerontological Nursing Practitioner track or the Post-</td>
<td></td>
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<tr>
<td></td>
<td>MSN NP Adult/Gerontological track and 620 or its equivalent for the Post-MSN student, 627.</td>
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<tr>
<td></td>
<td>Corequisites: 621, 628. Clinical management of common chronic and acute problems of adults in</td>
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<td></td>
<td>primary health care settings. Focus on episodic management using differential diag-</td>
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<td>nosis, collaboration, and program development.</td>
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<tr>
<td>691</td>
<td>ACUTE CARE NURSE PRACTITION</td>
<td>4 credits</td>
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<tr>
<td></td>
<td>Prerequisites: 608, 610, 612. Focuses on common chronic and acute problems of adults in primary</td>
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<td>health care settings. Emphasis on health promotion and risk assessment.</td>
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525 INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS
Prerequisite: 4200:321 or 4600:310 or permission. Nature of polymer blends and compounds and their applications. Preparation and technology using batch and continuous mixers. Mixing mechanisms.
3 credits

527 MOLD DESIGN
Prerequisite: 4200:321 or 4600:310 or permission. Molding methods to manufacture polymer products. Machinery, materials, molds, equipment, computer-aided design.
3 credits

550 ENGINEERING PROPERTIES OF POLYMERS
Prerequisite: 4600:336 or permission. Stress-strain behavior, characterization and design, orientation to engineering properties and polymer processing, Analyzing mechanical polymer tests in glassy, rubbery, and fluid states. Product design, morphology, reaction, and polymer processing concepts.
3 credits

551 POLYMER ENGINEERING LABORATORY
Prerequisite: 4200:321 or 422. Laboratory experiments on the rheological characterization of polymer melts, fabrication of engineering products, structural investigation of polymeric parts.
3 credits

601 POLYMER ENGINEERING SEMINAR
Presentations of recent research on topics in polymer engineering by internal and external speakers.
1 credit

611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIATION
Characterization of orientation, morphology, superstructure in polymers using x-ray, light scattering, birefringence, dicroism, X-ray crystallography, unit cell determination.
2 credits
2 credits
Experimental methods of determination of rheological properties of polymer melts, solutions, and colloidal systems. Structure-flux relationships, viscometric fluid theory, application to extension, fiber, film, and processing. Structure development in processing.

2 credits
Prerequisite: 621 Mathematical modeling and engineering design analysis of polymer processing operations including screw extruders, injection molding, dies, fibers, film forming. Design of equipment. Polymer structure properties.

2 credits
Prerequisite: permission of instructor. Basic studies on non-isothermal phenomena in polymer engineering emphasizing phase transitions, vitrification, orientation and residual stresses, applications, including fiber spinning and film extrusion.

2 credits
Practical experience with polymer structures, optical characteristics, mechanical including ultimate properties, viscoelastic behavior of elastomers and plastics, large strain behavior. Emphasis on experimental methods.

2 credits
Chemical and physical properties of amorphous and crystalline polymers. Glass transitions, crystallization, molecular orientation and morphology of important commercial polymers, fabricating and processing and composite materials.

2 credits
Basic concepts of polymer engineering taught in lecture-laboratory format intended for orientation to graduate and professional level.

2 credits
Rheological characterization of polymer melts, rubber and plastic extrusion, extrude swell, injection molding, compression molding, crystallization behavior, viscosity, diffusion, and tension testing.

2 credits
Principles of polymer kinetics, classical reactor design, comparison of polymerization in batch and continuous stirred tank reactors, flow patterns around agitators, tubular reactor, reactor stability.

2 credits
Prerequisites: 3150:263, 264, 313, 314, 9841:4703:381, 321 or permission of instructor. Development of understanding of his particular technology, processing and properties of common polymers involving nanoscale 1-3 dimensional fibers with thermosetting, thermoplastic, or amorphous properties.

2 credits
Prerequisite: Permission of instructor. This course focuses on the fundamental aspects of nano-technology. See general and basic knowledge of polymer/carbon nanotechnology and nanotechnol- ogy in particular.

2 credits
Prerequisites: 631. The design of rubber mounts, bearings and sandwich components with emphasis on experimental methods.

2 credits
Prerequisite: 622 or equivalent. Particle-particle interactions, mixing devices and design, theoretical hydrodynamics of suspensions of rigid particles, experimental studies of rheological behavior; time-dependent mechanical properties of polymeric materials; melt-flow and entan-glement, entanglement, and crystallization.

2 credits
Apply basic concepts of polymer engineering taught in lecture-laboratory format intended for orientation to graduate and professional level.

2 credits
Mathematical modeling and engineering design analysis of polymer processing operations including extruder screws, injection molding, dies, fibers, film forming. Design of equipment. Polymer structure properties.

2 credits
Prerequisite: permission of instructor. This course is an introduction to coating science. The synthesis of polymer binders and pigments used and the effects of coating techniques will be the focus of the first part of the course. The second part of the course will focus on coatings formulation and end-use applications for commodity coatings.

2 credits
(May be repeated) Supervised original research in specific area of polymer engineering.

2 credits
Prerequisite: 621 or permission of instructor. Molecular theory for concentrated solution, melts of flexible homopolymers, molecular morphology of miscible polymer blends, block copoly- mer, segmented and crystalline polynomials.

2 credits
Prerequisite: 622 or equivalent. Particle-particle interactions, mixing devices and design, theoretical hydrodynamics of suspensions of rigid particles, experimental studies of rheological behavior; time-dependent mechanical properties of polymeric materials; melt-flow and entanglement, entanglement and crystallization.

2 credits
Prerequisite: Permission of instructor. This course is an introduction to coating science. The synthesis of polymer binders and pigments used and the effects of coating techniques will be the focus of the first part of the course. The second part of the course will focus on coatings formulation and end-use applications for commodity coatings.

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Prerequisite: Permission of instructor. This course is an introduction to coating science. The synthesis of polymer binders and pigments used and the effects of coating techniques will be the focus of the first part of the course. The second part of the course will focus on coatings formulation and end-use applications for commodity coatings.

2 credits
Prerequisite: Permission of instructor. This course is an introduction to coating science. The synthesis of polymer binders and pigments used and the effects of coating techniques will be the focus of the first part of the course. The second part of the course will focus on coatings formulation and end-use applications for commodity coatings.

2 credits
Prerequisite: Permission of instructor. This course focuses on the fundamental aspects of nano-technology. See general and basic knowledge of polymer/carbon nanotechnology and nanotechnol- ogy in particular.

2 credits
Prerequisites: 3150:313 and 3150:314 or permission of instructor. Presentation of statistical principles of compounding and testing, processing principles and types of operation, design and development of polymer structures, molecular orientation and morphology of important commercial polymers, fabricating and processing and composite materials.

2 credits
Prerequisites: 580 and 675 or permission of instructor. Preparation of block and graft copolymers by free radical polymerizations and copolymerization, preparation of block and graft copolymers by free radical polymerizations.

2 credits
Prerequisite: Permission of instructor. Structure of low molecular weight and polymeric liquid crystals, characterization, physical properties including optical properties, phase transitions, applications. Preparation of thesis.

2 credits
Prerequisite: 641 or equivalent or permission of instructor. The polymeric binders used in radiation curing applications for coatings and waterborne coatings will be studied. The chemistry of dyes and the coatings science of pigments will be presented. The chemistry of the polymer degradation will also be studied.

2 credits
Prerequisite: 611, 641, or permission of instructor. This course focuses on the recent development of functional polymers for applications as advanced materials and smart devices, which requires the attendant to possess some prior knowledge of polymer science and polymer engineering from such 600-level courses as mentioned above.

2 credits
Prerequisite: 611 or permission of instructor. Advanced special topics intended for Ph.D. students in polymer engineering.

2 credits
MAY BE REPEATED: Prerequisite: completion of qualifying examination, approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

2 credits
MAY BE REPEATED: Prerequisite: completion of candidacy examination of Student Advisory Committee. Original research by a Ph.D. candidate.

2 credits
Mathematical modeling of polymer processes; introduction to polymer processing equipment; process analysis and design; kinetics and mechanisms of polymer degradation reactions.
APPENDICES

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 academic dean. Following that, the student may attempt to resolve the problem with the assistance of the academic dean. A graduate student presenting a case to the academic dean must provide a full written statement of the grievance, together with all appropriate supporting material. When or if the problem has not been adequately solved at that level or the student wishes to appeal that decision, the student shall prepare a written statement of the complaint setting forth clearly and specifically the allegations and shall hand deliver the written complaint to the Dean of the Graduate School. The Dean of the Graduate School shall notify the complainant confirming the receipt of the complaint and shall request all materials from the Dean of the complainant’s college.

2. Within one week of receipt of the complaint, the Dean of the Graduate School shall communicate with all parties in an attempt to informally resolve the problem. The result of this process will be a recommendation by the Dean of the Graduate School which 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 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 five working days. This notification shall include the following information: that a grievance has been filed; the nature of the grievance; and the parties involved.

6. If the charged party in that grievance admits the validity of the grievance, the Chairperson of the Hearing Committee shall waive the hearing and shall direct the Chairperson of the Hearing Committee to conduct the hearing.

7. If the student charged in the grievance denies the validity of the grievance, the Hearing Committee shall conduct the hearing.

8. At any point in the grievance process, the Chairperson may extend the deadlines with the mutual consent of all parties.

Hearing Committee

A Hearing Committee shall be established as follows:

1. Chairperson – The Chairperson shall be a member of the graduate faculty with full membership, but not from a department involved in the proceedings. This Chairperson shall be chosen at random from an established pool selected by the Graduate Council and shall serve for only one grievance proceeding. The Chairperson shall conduct the hearing and shall vote only in the case of a tie.

2. Members – Four members shall be selected as follows:
   a. A graduate student not involved with the complainant and not from the complainant’s department, selected jointly by the Department Chair and the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Chair.
   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.
   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.

APPENDICES
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 three 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, administration 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 the proceedings.

1. Records of all proceedings shall be prepared by the secretarial personnel of the Graduate School. Copies of all proceedings shall be distributed as follows:
   a. To all parties involved in the proceedings.
   b. To the Hearing Committee members.
   c. To the President of the Graduate Student Government.
   d. To the Dean of the Graduate School.
   e. To the Senior Vice President and Provost.

2. A copy of all proceedings shall be kept in the office of the Dean of the Graduate School pursuant to the University’s record retention proposal.

**Appeal**

An appeal may be made to the President of the University after all of the above procedures have been followed. The President of the University shall assess each case on an individual basis and his/her decision shall be considered final.

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**Family Educational 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 students 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 a request 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.

**Annual Notification**

Each year, The University of Akron is required to give notice of the various rights accorded to parents or students pursuant to the Family Education Rights and Privacy Act (FERPA). Parents and students, under FERPA, have a right to be so notified and informed. In accordance with FERPA, you are notified of the following:

- **Right to Prevent Disclosures**
  You have the right to prevent disclosure of Education Records to third parties with certain limited exceptions. It is the intent of The University of Akron to limit the disclosure of information contained in your Education Records to those instances where prior written consent has been given for disclosures, as an item of directory information of which you have not refused to permit disclosure, or under the provisions of FERPA which allows disclosure without prior written consent.

- **Right to Inspect**
  You have the right to review and inspect substantially all of your Education Records maintained at or by The University of Akron.

- **Right to Request an Amendment**
  You have the right to have corrected any parts of any Education Record that you believe to be inaccurate, misleading, or otherwise in violation of your FERPA rights. This right includes the right to a hearing to present evidence that the record should be changed if this institution decides not to alter the Education Records.
• Right to Obtain Policy
You have the right to obtain a copy of the written institutional policy adopted by The University of Akron in compliance with FERPA. A copy may be obtained in person or by mail from the FERPA coordinator located in the Office of the Vice President for Student Affairs.

You have the right to obtain a copy of the written institutional policy adopted by The University of Akron in compliance with FERPA. A copy may be obtained in person or by mail from the FERPA coordinator located in the Office of the Vice President for Student Affairs.

• Right to File a Complaint
You have the right to file a complaint with the Family Educational Rights and Privacy Act Office at the Department of Education, 600 Independence Avenue, S.W., Washington, D.C., 20202-3887, (202) 260-9001, concerning any belief you may have that The University of Akron has failed to comply with the provisions of FERPA.

Release of Directory Information
The Family Educational Rights and Privacy Act of 1974 (FERPA) permits The University of Akron to release directory (public) information about students. Director (public) information includes the student’s name, local (mailing) address, telephone number, major field of study, participation in officially recognized activities and sports, the student’s photograph, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous education agency or institution attended by the student.

Withhold Directory Information
If a student asks for directory information to be withheld, it will be withheld from a variety of sources, including friends, relatives, prospective employers, honor societies, the news media, and the commencement program. Students should carefully consider the consequences of a decision to withhold directory information.

Students may obtain a “DIRECTORY INFORMATION RESTRICTION REQUEST” form at http://www3.uakron.edu/registrar/DirInfoRel.doc or at the Office of the University Registrar.

Completed forms must be provided to the Office of the University Registrar more than ten (10) days prior to the starting date of the semester or summer session for instructions to be effective for that semester. Return to: Office of The University Registrar, The University of Akron, Akron, Ohio 44325-6208, or fax to (330) 972-6097

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 invoke 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 either in 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 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

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
Deans of the Colleges of The University of Akron

*Deceased.

Buchtel College of Arts and Sciences
ALBERT I. SPANTON*, 1913-1938, M.A., Lit.D.
CHARLES BULGER*, 1938-1948, Ph.D., Lit.D.
ERNEST H. CHERRINGTON, JR., 1948-1960, Ph.D.
THOMAS SUMNER*, 1960-1962, Ph.D.
GEORGE W. KNEPPER, 1962-1967, Ph.D.
DON A. KEISTER*, 1967-1969, Ph.D.
ROBERT A. OETJEN, 1970-1972, Ph.D.
CLAIBORNE E. GRIFFIN*, 1973-1990, Ph.D.
RANDY MOORE, 1993-95, Ph.D.
ROGER B. CREEL, 1995-97 (interim); 1997-2005, Ph.D.
RONALD F. LEVANT, 2005-present, Ph.D.

College of Engineering
R. D. LANDON*, 1946-1963, C.E., M.S.
W. M. PETRY*, 1963-1964, M.S.M.E. (acting)
MICHAEL J. RZASA*, 1964-1970, Ph.D.

College of Education
W. J. BANKES*, 1921-1931, M.A.
HOWARD R. EVANS*, 1933-1942, Ph.D.
H.J. ALMANNER W. DIAT*, 1942-1944, Ph.D. (acting)
HOWARD R. EVANS*, 1944-1956, Ph.D.

College of Business Administration
WARREN K. LEIGHT*, 1953-1962, Ph.D.
RICHARD C. REIDENBACH, 1962-1967, Ph.D.
ARTHUR K. BRINTALL, 1967-1968, Ph.D. (acting)

School of Law
STANLEY A. SAMAD*, 1959-1979, J.S.D.
ALBERT S. RAKAS*, 1979-1981, J.D. (acting)
DONALD M. JENKINS, 1981-1987, LL.M.
ISAAC C. HUNT, JR., 1987-1995, LL.B.
RICHARD L. AYRES, 1995-present, J.D.

Graduate School
CHARLES BULGER*, 1903-1951, Ph.D., Lit.D. (Dean of Graduate Work)
ERNEST H. CHERRINGTON, JR., 1955-1960 (Director of Graduate Studies); 1960-1967 (Dean of the Graduate Division); Ph.D.
ARTHUR K. BRINTALL, 1967-1968, Ph.D. (Dean of Graduate Studies and Research)
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