Calendar 2008-2009

Fall Semester 2008
Day and evening classes begin Mon., Aug. 25
*Labor Day (day and evening) Mon., Sept. 1
Spring 2009 advancement to candidacy due Mon., Sept. 15
Veterans Day (classes held; staff holiday) Tues., Nov. 11
**Thanksgiving Break Thu.-Sat., Nov. 27-29
Classes resume Mon., Dec. 1
Final instructional day Sat., Dec. 6
Final examination period Mon.-Sat., Dec. 8-13
Commencement Sat., Dec. 13
Winter Recess Sat.-Sat., Dec. 20–Jan. 10

Spring Semester 2009
Day and evening classes begin Mon., Jan. 12
*Martin Luther King Day Mon., Jan. 19
Summer 2009 advancement to candidacy due Mon., Feb. 16
*Presidents’ Day Tue., Feb. 17
Spring Break Mon.-Sat., Mar. 16-Mar. 21
Classes resume Mon., Mar. 23
Final instructional day Sat., May 2
Final examination period Mon.-Sat., May 4-9
Commencements Sat.-Sun., May 9-10
Fall 2009 advancement to candidacy due Fri., May 15
School of Law Commencement Sun., May 17

Summer Sessions I, II, and III 2009
First 5- and 8-week Sessions begin Mon., May 18
*Memorial Day Mon., May 25
First 5-week Session ends Sat., Jun. 20
Second 5- and 8-week Sessions begin Mon., Jun. 22
*Independence Day Fri., Jul. 3
First 8-week Session ends Sat., Jul. 11
Third 5-week Session begins Mon., Jul. 13
Second 5-week Session ends Sat., Jul. 25
Third 5-week and Second 8-week Sessions end Sat., Aug. 15
Summer Commencement Sat., Aug. 15

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

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.
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. Newcombe ............................................. 972-6458
Associate Dean, Graduate School
Dr. Mark B. Tausig .................................................. 972-7664
Assistant to the Vice President for Research & Dean, Graduate School
Mrs. Dolli Quattrocchi Gold ........................................... 972-6737
Senior Executive Administrative Assistant
Mrs. Cynthia S. Angerstien ............................................ 972-6458
Administrative Assistant Senior
Ms. Heather A. Blake .................................................. 972-7664
Coordinator, Graduate Student Financial Aid
Mrs. Karen L. Caldwell ............................................... 972-6310
Director, McNair Scholars Program
Ms. Billi F. Copeland .................................................. 972-2135
Student Services Counselor
Ms. Jessica N. Fritz .................................................... 972-5169
Student Services Counselor
Ms. Brenda J. Henry ................................................... 972-7665
Coordinator, Graduate Admissions
Ms. Theresa M. McCune ............................................. 972-6405
Examiner Associate
Mrs. Sarah Sir Louis ................................................... 972-5296

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 ........................................................... 972-7460
Ticketmaster ............................................................. 972-6684
Tours (of the University) ............................................ 972-7077
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 Univers alist 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 188 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 (1935), 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 attract 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 fuels; 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 now offers 17 doctoral degree programs and seven law degree programs as well as more than 100 master's degree programs and options. The University offers undergraduate students a choice of more than 200 majors and areas of study leading to associate and bachelor's degrees. Hundreds of noncredit continuing education courses, certificate programs and specialized training opportunities are available for individuals and organizations.

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, much more than 3,000 students from 44 states and 76 countries are enrolled in its 10 degree-granting units. The University of Akron is a 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. 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, organizational psychology, educational technology, marketing, dance, intellectual property law and nursing. Alumni of the University number more than 140,000 and include scientists, engineers, artists, lawyers, educators, nurses, writers, business people, and other professionals at work in every state and throughout the world.

The 222-acre Akron campus, with 87 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 collegiate, 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 the R. J. Thomas Performing Arts Center, the Reardon Alumni Center, and the University of Akron Fine Arts Center. The University of Akron's continuing and central commitment to the liberal arts is significant.

MISSION STATEMENT
The University of Akron, a public research university, 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 of Akron is 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 already has 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 we respect the needs of students, faculty, contract professionals, staff, administra tors, 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 or discrimination or harassment from students to other students.

Students are expected to respect the sanctity of the teaching/learning process by expressing respect for the faculty member as the organizer and guide through this learning experience, as well as for fellow students. Disruptive, disrespectful, discriminatory, harassing, violent and/ or threatening behavior is explicitly prohibited. Academic dishonesty will not be tolerated. Students are expected to 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 serve 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 LaSalle Street, Suite 2400 Chicago, IL 60602 (800) 621-7440) 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:
AACSB-The International Association for Management Education
Accreditation Board for Engineering and Technology
American Association for Community Colleges
American Association of Marriage and Family Therapy (provisional)
American Association of Nurse Anesthesia — Council on Accreditation
American Dietetic Association
American Psychological Association
American Speech-Language-Hearing Association
Association of Collegiate Business Schools and Programs
Commission on Accreditation for Athletic Training Education (CAATE)
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 Schools of Art and Design
National Association of Schools of Dance
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration (NASPA)
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 Higher 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.
The University of Akron 2008-2009

The Campus

Currently, the Akron campus covers 222 acres and encompasses more than 87 buildings. Recent and continued growth with new academic, administrative, and recreational spaces, in addition to major renovations to existing buildings, are attributable to the University’s commitment to provide an “Infrastructure for Academic Success.”

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 of Akron 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 routes (Interstates 80, 90, 76, and the Ohio Turnpike) and north-south routes (Interstates 71 and 77), all of which link Akron to the surrounding states and regions. 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 St. is an instructional classroom and laboratory facility for Polymer Engineering and 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.

Athletics Field House. The building is adjacent to the 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 Mondo track, 8,000-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. This complex houses the College of Engineering Dean’s office, the Engineering Co-op Office, Mechanical, Electrical, and Civil Engineering; as well as the Science Technology Library and 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 Physics department and Academic Achievement programs.

Bierce Library. This building is named for General Lucius V. Bierce, an Akron mayor, lawyer, historian, state senator, philosopher, philanthropist, and soldier. In addition to the book and periodicals collection, the facility houses audio-visual materials, maps, and a library. The building features many innovative laboratories with the most sophisticated safety equipment, as well as classrooms and faculty and administrative offices.

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

Buckingham Center. 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 259 South Broadway, houses offices, classrooms, and laboratory facilities for the College of Business Administration, the George W. Daverio School of Accountancy, and the departments of Finance, Marketing, and Management.

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

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

Crouse Hall. Crouse Hall houses the Department of Geology and Environmental Science, the Center for Environmental Studies, classrooms, and some of the College of Education offices as well as the H.K. Barker Center for Economic Education.

E.J. Thomas Performing Arts Hall. Named for Edwin J. Thomas, prominent industrialist and dedicated member of the University Board of Trustees from 1962 to 1975, this cultural center 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 E. Exchange St., provides modern, well-equipped facilities for the Mary Schiller Myers School of Art. Studios are available for graphic arts, photography, drawing, painting, 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 of Nursing, faculty offices, the Center for Nursing, a Learning Resources Center that includes patient care simulation areas, an audio-visual center, and a state-of-the-art computer learning center.

Goodyear Polymer Center. This building, located at 170 University Avenue, houses offices for the Dean of the College of Polymer Science and Polymer Engineering, the Vice President for Research and Graduate School and the Office of Technology Transfer. The facility features a 200-seat lecture hall, offices, classrooms, and research laboratories for the Institute and Department of Polymer Science.

Guzzetta Hall. Located at 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 Architecture, Theater and Arts Administration, Firestone Conservatory and the School of Music in addition to student practice rooms, an experimental theater and a 300-seat recital hall.

James A. Rhodes Arena. This structure on Buchtel Common is connected to Memorial Hall by a pedestrian bridge and contains an intercollegiate basketball and volleyball arena with seating for 5,500. The facility also serves as a concert and special 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.

Infocision Stadium-Summa Field. Located at 289 South Union, this state-of-the-art multiplex facility is scheduled for completion September 2009.

Knight Chemical Laboratory. This 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. 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. Daum Theater.

Leigh Hall. Leigh is named in honor of Warren W. Leigh, first dean of the College of Business Administration. This building is occupied by the offices of Distributed Education, Institute of for Teaching and Learning, and Institutional Research, 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 serve restaurant is open for lunch between 11:30 a.m. and 1:30 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, it provides space for the law library, classrooms, moot courtroom, appellate-review office, seminar rooms, and faculty offices. An addition provides library supplement and space, and a 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 served in the World War II, this is the companion building to the Rhodes Arena. It contains the Office of Sport Science and Wellness Education, a multi-functional gymnasium with spectator seating, two smaller gymnasia, a motor learning facility, a human performance lab, an athletic training lab, a weight training and fitness center, an athletics batting cage, and several 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, Center for Conflict Management, English, Modern Languages, Classical Studies, Anthropology, and Archeology.

Olson Research Center. This facility, adjacent to the new Polymer Engineering Academic Center on Forge Street, houses space for 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 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 Graduate School’s Office, 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. This newly constructed 31,900 sq. ft. addition to the Olson Research Center houses departmental, faculty and graduate student offices, the Rubber Division offices of the American Chemical Society, classroom space and a 134-seat lecture hall.

Quaker Square Complex. This complex, located at 135 South Broadway, once used by the Quaker Oats Company, now houses the Quaker Square Inn and Quaker Square Residence Hall, in addition to academic uses, retail, banquet, office, and dining facilities.

Robertson Dining Hall. This building houses the cafeteria and a dining room for students.

Rubber Bowl. This off-campus stadium at 800 George Washington Blvd., 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 The University of Akron’s Board of Trustees. This complex, which adjoins Auburn Science and Engineering Center, is composed of two academic structures and a parking deck.

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 Admissions, Center for Career Management, Student Financial Aid, Office of the Registrar, University College, New Student Orientation, and Business and Finance (Student Financials).


Student Recreation and Wellness Center. This complex houses facilities and services for student recreation and wellness as well as Intramural Sports and the Campus Infirmary, which provides health services for the University.

Student Union. The Student Union, located in the center of campus, serves as a hub for student recreational and social activities for students, faculty, and staff. This facility houses various food venues, a ballroom and meeting rooms, theater, game room, Computer Solutions — the computer technology store, DocuZip copy center, bank, Information Center, Ticketmaster outlet, Planet Underground — a DVD/CD store, Starbucks, Zip Card office and Barnes and Noble Bookstore. Visit our Web site at http://studentunion.uakron.edu.

Whitby Hall. Located at 200 Buchtel Common, Whitby Hall is named in honor of G. Stafford Whitby, a pioneer in the development of polymer science. This building is occupied by the Department of Chemistry and Biomedical Engineering department offices; faculty offices and research labs; a computer lab and 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 and Assistant Dean for Student Affairs and administrative assistance areas. Other facilities include a lecture room that seats 220, general classrooms, a science and mathematics classroom/labory, a distance learning classroom, a Center for Literacy, two technology-enhanced demonstration classroom rooms, two computer-training 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, an animal and vegetable 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, 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 of 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, faculty, and programs can be found on the department Web site 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 program, 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, 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 part of most classes.

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 wide variety of computing facilities, operating environments, languages 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 two cluster computers 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 computers 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 VNUS Internet II network. Many department computers are accessible via the University dial-up lines or the Internet.

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 both faculty and graduate students. Economics as a discipline has become increasingly quantitative. The department has a computer laboratory for faculty and students. It is equipped with the latest equipment, running in a Windows environment. In addition, the department has a variety of software, including economic tutorials, word processing programs and SAS. The lab is also equipped with a laser printer. Network access allows students to search for books, journal articles, the latest economic data, etc., remotely from either Ohio Link or the World Wide Web. The lab is located in close proximity to the faculty offices which facilitates interaction between faculty and students, and enhances the students’ educational experiences. Additional information about the department, the faculty, and the programs is available on the department Web site at www.ualr.edu/econ.

The Department of English is located on the third floor of Olin Hall. The department offers students the opportunity to take composition classes and courses in its state-of-the-art computer classrooms. Students have the opportunity to submit written work for literary prizes every spring as well as apply for various English scholarships. The Department hosts the Literary Guild for students, runs a journal of creative writing for students, and sponsors an open mic night featuring poetry and fiction readings by students. Additional information about the department, the faculty, and the programs is available on the department Web site at www.ualr.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 that include an environmental scanning electron microscope, automated electron microscope, environmental scanning electron microscope, and automated x-ray diffractometer. An ion-coupled plasma spectrometer, atomic absorption spectrometer, ion chromatograph, and coal and carbon analyses support geochemical studies. Environmental magnetism and paleomagnetism of sediments are analyzed with an alternating gradient magnetometer, magnetic susceptibility equipment, spin magnetometer, alternating field demagnetizer, and a pulse magnetizer. Geophysical research is conducted with a graviometer, a gradiometer, magnetometer, automated resistivity gear, seismic-surveying equipment, ground-penetrating radar, and a field gradimeter. In addition to the standard equipment used to prepare and analyze rocks and sediment, the department has Giddings Soil Probe, Zodiac boat, pontoon- supported aqueous drilling platform, one 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 new 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 housed within the department and maintains the Buchtel College of Arts & 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 computer programs in the department also provide Internet access to encourage students and faculty to keep current on subjects of interest. Access to the computer labs 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 department's Center for Research offers a regular interaction between students and faculty. The use of e-mail also enhances student-faculty communication. Staff members provide introductory seminars and are always available to assist and guide students. A friendly, informed, 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 fourth floor of the College of Business Administration Building, which houses the college's offices, classrooms, computer laboratories, and advising services. The departments of Finance, Management, Marketing, the George W. Daverio School of Accountancy, the Fisher Institute for Entrepreneurial Studies, the Fisher Institute for Professional Selling and the Institute for Global Business share the CBA. All undergraduate and graduate programs are fully accredited by AACSB International — The Association to Advance Collegiate Schools of Business, the most prestigious accrediting agency for business schools.

Tiered, amphitheater style classrooms permit close contact between students and professors. The Milton and Henrietta Kushkin Computer Laboratory consists of three teaching labs, one homework lab, and two portable laptop carts. The teaching labs are equipped with 36 student stations. Beginning with the 2008 fall semester, one of these teaching labs will be enhanced to include distance learning capabilities. The homework lab contains 25 computers for students. Each PC is equipped with Windows XP, Office 2007, Project 2007, Visio 2007, Oracle 10g, SQL Server 2005, Visual Studio, Adobe Studio 8, SAS, SPSS, and many other software applications.

The Carl V. and Clyde A. Fisher Sales Laboratory provides the college with six group lab rooms connected by one-way mirrors to a central monitoring and control room. Sophisticated audiovisual 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, 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 and internet capabilities.

The Gary L. and Karen S. Taylor Institute for Direct Marketing occupies approximately 3200 square feet in the John F. 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 social, professional, leadership, and networking skills through interaction with business professionals and other students.

College of Education

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

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 Guidance and Counseling (with specialties in Counselor Education and Marriage and Family 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 CounselingTherapy, School Counseling and Class-
room Guidance for Teachers. The department also operates a multidisciplinary clinic, the Clinic for Child Study and Family Therapy.

The Department of Curricular and Instructional Studies includes the areas of early childhood, middle childhood, secondary (adolescent to young adult), preschool to grades 12 (P-12) education and the areas of special education as an intervention spe-
cialist for early childhood (P-2) and 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 pro-
gram prepares teachers to teach age three to grade three. The middle childhood pro-
gram prepares teachers to teach grades four through nine with specialization in each of two areas selected from reading/language arts, mathematics, science and social studies. The secondary program prepares teachers in grades seven to twelve to teach language arts, mathematics, science, social studies or family and consumer science (grades 4-12). The P-12 program prepares teachers of foreign language, music, dance, drama, or visual arts. Endorsements are available in reading and teaching English as a second language.

The special education options prepare graduate students to be mas-
ter teachers and supervisors of special education programs. The University Center for Child Development, under the direction of the College of Education, provides child care for children while serving as an experimental learning site for teacher education stu-
dents.

The Department of Educational Foundations and Leadership serves undergrad-
uate and graduate students in the College of Education. The department provides gradu-
ate courses in educational administration and higher education administration. The department members also teach the core curriculum of historical, philosophic, psy-
chological, and social foundations required in all graduate education programs. They teach, advise, and supervise problems, theses, and dissertations of students in their degree-granting graduate programs, the master’s and doctoral programs in Educational Administration, the master’s pro-
gram in Higher Education Administration, undergraduate and masters programs in Post-

The Department of Sport Science and Wellness Education prepares students for careers in teaching, athletic training, exercise science, coaching and related recreational fields. There are laboratories for the study of exercise physiology, anatomy, athletic train-
ing, motor behavior, teaching skills (microteaching), and computer utilization in physi-
cal and health education. The department has access to the James A. Rhodes Health and Physical Education Building (classrooms, the main gym, an indoor running track, a multi-purpose room, and four teaching station areas), Memorial Hall (classrooms, as well as field, track and small gymnasium), Oakes Natatorium (classroom, swimming pool, ra-
quetball courts, and cardiovascular fitness and weight training areas), Student Recre-
atIon and Wellness Center (cardiovascular fitness and weight training areas) Athletic Field House (sports medicine equipment), and Lee Jackson Field (an outdoor running track).

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, Schrank Hall North, Whitby Hall, and the Olson Research Building. The current active research centers include the Compu-
tation Mechanics Research Center, the Institute for Biomedical Engineering Research, and the Microscale Physicochemical Engineering Center. The master’s programs in the College consist of departmentally administered Master of Science degrees in Chemical, Civil, Electrical, and Mechanical Engineering. The Dean’s Office administers the Master of Science in Engineering degree with specializations in Bio-
medical Engineering, Polymer Engineering, and Engineering Management. The Doc-
tor of Philosophy in Engineering is offered in the interdisciplinary fields of Environmental Engineering, Mechanics, Systems Engineering, Materials Science, Transport Processes, Biomedical Engineering, Engineering Applied Mathematics, Chemical Reactions and Process Engineering, Microscale Physicochemical Engineering, and Poly-
er Engineering. This interdisciplinary degree integrates departmental disciplines and is administered by the Dean’s Office. There is coordinated Doctor of Philosophy in Engi-
neering Degree with Youngstown State University and a joint MD/Doctor of Philosop-
hy Degree in Engineering with the Northeast Ohio Universities College of Medicine.

The Department of Biomedical Engineering is located in the Olson Research Cen-
ter and has classrooms, instructional laboratories and research laboratories. The depart-
ment provides educational opportunities at the graduate level (MS and Ph.D. in Engineering), Biomedical engineering graduate students may also participate in the joint MD/Doctor of Philosophy in Engineering Degree program between the College of Engineering and the Northeast Ohio Universities College of Medicine.

Research faculty members in the Biomedical Engineering Department have strong research programs in biomechanics, instrumentation, signals, imaging and biomate-
rials are active participants in the Institute for Biomedical Engineering Research. There are nine major research laboratories located in the Biomedical Engineering Department. The Musculoskeletal Biomechanics Laboratory is equipped with materials testing equipment and finite element analysis capabilities. This Laboratory can also evaluate and test medical and surgical procedures and applications. The Human Interface Laboratory conducts research in virtual reality, telemanipulation, biofeedback therapy and minimally invasive surgery. The Rehabilitation Engineering Lab-

eratory is equipped to conduct collaborative research on problems related to stroke, head injury and arthritic patients. The Biomedical Instrumentation Laboratory has con-
tinuous wave and Doppler ultrasound equipment, temperature sensing devices, blood pressures and flow monitoring equipment.

The Vascular Dynamics Laboratory provides facilities to measure and analyze blood flow through steady and pulsatile in vitro models of cardiovascular importance using techniques such as flow visualization, 2-D laser Doppler anemometer and pulse Doppler ultrasound techniques.

The Motion Analysis Laboratory studies all aspects of human movement. This lab-

oratory is equipped with a Vicon Motion Analysis System, two ANTI force plates, a MA—EMG 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 Biomaterials and Tissue Engineering Laboratory provides equipment infrastruc-
ture to investigate all aspects of biomaterials. The facility includes a wet lab for for-
mulation, development and analysis of biomaterials, including medical applications for nanotechnology. The tissue culture lab has equipment to investigate the cells of tissues and biomaterials and to develop tissue engineering scaffolds for developing therapies in regenerative medicine.

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 Coiled and Surface Science Laboratory has a state-of-the-art laser light scattering facility including a temperature control laser chamber, a Brookhaven correlation and probability analyzer, FTR-Ramen, TGA, and an IBM PC-based data acquisition system. The Biochemical and Environmental Bioengi-
eering Laboratory is a satellite center of the Ohio Bioprocessing Research Con-
sortium, housing a state-of-the-art HPLC-MS with additional luminescence, UV/VIS, and RI detectors. The labs are well equipped with several bioreactor assemblies, Sorval RSC-SC refrigerated super centrifuge, Perkin-Elmer UV/VIS spectrometer and LS-580 luminescence spectrophotometer, and on-line NAD(P)H fluorometers. The Biomaterials Laboratory is available for polymer synthesis and storage including a nitrogen hood, Sephadex separation columns, an oil bath, a dry bath, a vacuum oven, a Buch rotary evaporator, and a Labconco lyophilizer. The Catalysis Research Laboratory is equipped with high pressure and high tem-
perature IR reactor system with a Nicolet Magna-IR 550 Spectrometer Series II, a Nicolet Magna-IR 560 Spectrometer E.S.P. and a Balzers Prisma OMIG 200 Mass Spectrometer for in situ catalyst preparation, in situ characterization, temperature programmed desorption of NO, H2, and CO, and in situ reaction studies. The Multiphase and Solids Processing Laboratory is equipped to do research in fil-
tration and flows through porous media. The labs are 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 Brookhaven EKA Streaming Potential instrument for measuring zeta potentials. An optical system is set up to measure particle sizes and size dis-
tributions. The Nonlinear Control Laboratory is equipped with Unix based work-
stations and a variety of engineering software packages.

The Supercritical Fluids Laboratory, a key lab in the Ohio Supercritical Fluid Tech-
ology Consortium, is equipped with FTR/Raman/ATR, GC/FID/TCD high pres-
sure phase behavior apparatus, Bitty Reactor, 1-liter stirred Reactor, dynamic light scattering, mechanical testing and high temperature GPC. The Thin Film Labora-

tory is equipped with plasma systems, thermal chemical vapor deposition, and in situ microlithography.

The Department of Civil Engineering is located in the Auburn Science and Engi-
neering Center and Schrank Hall North and has five major laboratories. In the Envi-
ronmental Engineering Laboratory, students learn to use a variable flowrate water and contaminant test facility to assess its effectiveness and to determine the most effective treat-
ment techniques. Laboratory equipment includes UV-visible spectrophotometers, respirometers, gas chromatographs, high-performance liquid chromatographs, toxi-
city analyzers, and a total organic carbon analyzer. Water and wastewater analytical kits and specialized meters are also available for field applications.

In the hydraulics laboratory, a tilting flume enables the student to visualize water flow in streams and rivers. A pressurized pipe module is used to study frictional losses in different size pipes. Instructional laboratories introduce several hydraulic software tools such as FlowMaster for pressurized pipe and open channel flow calculations, EPANet, for water distribution pipe network analysis, and HEC-RAS, for calculating water sur-
fact profiles for natural streams and channels.

In the soil mechanics and foundation engineering lab, students analyze soil by a vari-
ety of tests and equipment to determine shear strength characteristics, compaction characteristics, and seismic and electrical resistivity equipment for geophysical explo-
sation of soil and rock deposits. The laboratory also has a computer-controlled cyclic triaxial testing system, pneumatically loaded consolidometers, flexible wall perme-
ometers, a portable static penetrometer, a pile-driving analyzer, and capability for ground vibration monitoring and analysis.
In the structural materials laboratory, the opportunity to observe experimental verifications of the behavior of structural members subjected to tension, compression, bending, and torsion. Physical tension is accomplished with the use of two universal testing machines with a maximum capacity of 500,000 pounds. Five closed-loop servohydraulic testing machines with a loading capacity to 100,000 pounds of load frame used to test full scale members and structural systems and a Charpy impact machine. One of the closed-loop machines has the capacity to apply both axial and torsional loads. Further, a full array of data acquisition equipment is available.

The transportation laboratory is equipped with a complete signal control system supported by video and laser speed/range detection systems to provide traffic data for systems control and analysis. The global positioning system tracks the position of probe vehicles on transportation network and the spread spectrum radio transmits the video and traffic data from one such system to another wirelessly.

The Department of Electrical and Computer 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/microwaves. Laboratories follow instruction to help the student apply the material learned in class.

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

The analog and digital electronics laboratory builds on the circuits sequence and introduces the student to more advanced design tools and concepts, including computer 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 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 teaches electric machines, energy conversion, and machine control. The laboratory is equipped with motors, generators and controllers, both digital and analog. Emphasis is placed on computer control of machines.

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

The power electronics lab is taught as part of a power electronics course and teaches students about the components and the principles of operation at high voltage, high current and high power. Digital controllers and all digital equipment is used.

The power electronics laboratory is taught as part of a power electronics course and teaches design of power components and circuits for operation at high volt/ampere meters, and other basic measuring equipment.

The mechanical systems laboratory is taught as part of a mechanical systems course and teaches the principles of operation of 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 spectrometer of heat exchangers. The Mechanical Measurements Laboratory has a complete complement of transducers, calibration equipment and standards, signal conditioners, analog recording devices and microprocessors-based digital data acquisition systems. The Materials Testing Laboratory has a computer controlled servo-hydraulic structural testing machine and a uniaxial universal testing machine for performing static, quasi-static, cyclic and dynamic tests on a spectrum of engineering materials in several types of hardness testing equipment. The Parker Hannifin Motion and Control Laboratory has hydraulic and pneumatic servo systems as well as serval pivot systems controlled by PLCs and computer controllers. The Experimental Mechanics Laboratory has photoelastic strain measuring equipment and associated facsimile instrumentation with a complete range of gauge instruments for finite element analysis and 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 Micro Electro Mechanical Systems (MEMS) Laboratory has instrumentation to build and characterize MEMS devices.

The Vibration and Acoustics Laboratory has electromechanical shakers, sound pressure measurement, and frequency spectrum analyzers. The Metallography and Failure Analysis Laboratory has a complete set of metallographic instrumentation for microstructural 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 compound/processing laboratories to serve the needs of industry and government agencies for a reliable source of problem solving and data. Processing laboratories include unique processing equipment and facilities to simulate typical processing conditions.

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

College of Fine and Applied Arts

The School of Communication features a television classroom/studio and a wide complement of supporting audio and video equipment, including graphics generators and linear and non-linear editors. Portable audio and video equipment is available for use. There is an audio recording facility with multitrack capability. The School also houses radio station WZFP, an air 7300 watt FM radio station serving Northeast Ohio. WZFP-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 new Guzzetta Hall addition. 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 prosenium theatre is the home of theatre productions as is E.J. Thomas Performing Arts Hall. Student productions are performed in Studio 20, Sandefur Theatre, and Daum Theatre.

The School of Family and Consumer Sciences is housed in Schrann-Hall South and is accredited by The American Association of Family and Consumer Sciences. Nine laboratories, including a computer center, are available for use. These laboratories are designed for individual and group learning experiences. All programs provide community experiences through internships, clinicals, and student teaching. These programs have active Advisory Committees of community professionals who provide advice and networking assistance. The School’s Center for Family Studies offers a variety of certificate programs, including Divorce Mediation, Home Based Intervention and Case Management. In cooperation with the College of Education, the School maintains the Center for Child Development for the study of child development and teacher education. The school also houses the University of Akron Nutrition Center, a comprehensive regional center for the study, delivery of effective nutrition interventions. The Center also serves as an educational resource for students and the community, provides nutrition services and conducts research.

The School of Music is housed in Guzzetta Hall and also utilizes the E.J. Thomas Performing Arts Hall. Guzzetta Recital Hall seats 250 and is equipped with a pipe organ, harpsichord, two concert grand pianos, and a recording booth. The Music Computer Center is equipped with Macintosh computers and MIDI/sound and video equipment. An electronic music studio features digital and analog multitrack recording and sound synthesis equipment for music composition. Classrooms, studios, and 40 practice rooms (acoustical sound modules) are used for teaching, rehearsals, and practice.

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

The School of Speech-Language Pathology and Audiology provides preprofessional and professional training to students who wish to become speech-language pathologists and/or audiologists. The School houses the Audiology and Speech Center, which functions as a practicum 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 curriculum, 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 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 health care and quality of life for elders.

The Master’s Program includes advanced practice options as a clinical nurse specialist, nurse practitioner, or nurse anesthetist and an advanced role option in nursing service administration. The Advanced Role Preparation in Nursing Educator Role and Nursing Management and Business Certificate Programs are also available. Advanced practice specialties include adult/gerontological health nursing, behavioral health nursing, child and adolescent health nursing and nurse anesthesia. Postmaster certificate programs include adult/gerontological health nursing, behavioral health nursing, and child and adolescent health nursing and nurse anesthesia. Core courses in the Master of Science in nursing program are offered via distance learning from the Akron campus to the Lorain County Community College (LCCC) campus.

The Doctoral Program in nursing is a joint Ph.D. program with Kent State University. It is the first Joint Doctoral Program in Nursing in the state of Ohio. The curriculum focuses on the development and testing of theories and models of nursing science and nursing practice, taking into consideration of the social, political, legal and economic implications of health care policies and practices, and the dissemination of knowledge.

**College of Polymer Science and Polymer Engineering**

The College of Polymer Science and Polymer Engineering offers only graduate degrees leading to the Master of Science and Doctor of Philosophy in both Polymer Science and Polymer Engineering. In addition, there are elective courses in both polymer science and polymer engineering for undergraduate science and engineering majors. Options which emphasize polymer engineering have been developed with the College of Engineering through the Departments of Chemical and Biomolecular 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 faculties of the colleges of Engineering and Polymer Science and Polymer Engineering, is offered. Core courses in the Master of Science in nursing program are offered via distance learning from the Akron campus to the Lorain County Community College (LCCC) campus.

The Doctoral Program in polymer science and polymer engineering is a joint Ph.D. program with Kent State University. It is the first Joint Doctoral Program in Polymer Science and Polymer Engineering in the state of Ohio. The curriculum focuses on the development and testing of theories and models of polymer science and polymer engineering practice, taking into consideration of the social, political, legal and economic implications of health care policies and practices, and the dissemination of knowledge.

**Information Technology Services Division**

**Providing Information Technology (IT) Direction, Services and Support for The University of Akron**

The Information Technology Services Division supports all of the University's technology needs including data and communications. In today's University environment, professors, students, administrators, and staff use the same technology and products. Personal productivity tools, network connectivity, and services provide a common infrastructure for the dissemination of information and communications.

The ITS Division is preparing for the University's future technology needs with an emphasis on the continued convergence of voice, video and data networks into a single digital network environment.

**Distributed Technology Services**

provides technology and software support services for the campus community.

- **Computer Labs:** A combination of 360 Dell wireless laptops are available for two- and four-hour loans in Bierce Library, the Science & Technology Library, Circulation desk, the Student Union information desk, Polsky's Room 267 and the Exchange Street Residence Hall. The wireless laptops can be used anywhere within the building to access the internet, to get mail, or to do class assignments. A general purpose computer lab of 20 Windows Desktop PCs for students is located in the College of Arts & Sciences building, Room 103A. Both the wireless and general purpose labs have the same productivity tools such as Microsoft Office, SPSS and SAS. All computers have internet and e-mail capabilities.

- **Internet Kiosks:** 112 strategically placed internet kiosks provide instant access to email and Web registration on campus.

- **Computer Repair Services** provides University of Akron students with knowledgable assistance in the setup and operation of their personal computer equipment. CRS will install University-approved software and assist in installing hardware and peripherals, which will enable you to connect to the University computer network and the internet. CRS will also provide hardware diagnostics, software diagnostics (within reason) and basic troubleshooting. CRS will not install or troubleshoot any software or hardware relating to games. If a hardware problem is found or suspected, our student technicians will give you an idea as
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to where the problem lies. CRS can also help you set up your dial-in access to the University Computer Network as well as direct network connections or wireless for residence hall students.

CRS will install (you must have the original media) and troubleshoot the following software products:

- Microsoft Windows XP/XP Home, 2000, ME, 98, Vista
- Microsoft Publisher
- Adobe Acrobat Reader
- Hummingbird Remote Job Entry
- McAfee Virus Scan software

**Please note that all Microsoft software must be purchased by the student prior to installation. An agreement between the University and Microsoft allows the university to sell Microsoft software products to University of Akron students through Computer Solutions, at significantly reduced prices.

Location: The Lincoln Building. 100 Lincoln St., Room 103; (330) 972-7626

**Hours of Operation:** Monday-Friday, 7:30 a.m. - 5 p.m.

Technology Learning Support Services (TLS) provides the campus community with support services for computing hardware and software. Walk-in Support Centers combined with Laptop checkout areas are conveniently located across campus.

**Walk-in Support Centers**

Bierce 52C & Exchange Residence Hall Room 146

Hours of operation during the Fall and Spring semesters:
- Monday – Thursday: 8 a.m. – 10 p.m.
- Friday: 8 a.m. – 9 p.m.
- Saturday: 9 a.m. – 8 p.m.
- Sunday: 1 p.m. – 10 p.m.

**Summers hours are modified and are posted on the Web page.**

Polsky 367

Monday – Friday: 8 a.m. – 8 p.m.

The Zips Support Desk provides call in, (330) 972-6888, email, support-desk@uakron.edu, and online chat support for all students, faculty and staff.

**Hours of operation during the Fall and Spring semesters:**
- Monday – Thursday: 8 a.m. – midnight
- Friday: 8 a.m. – 9 p.m.
- Saturday: 9 a.m. – 8 p.m.
- Sunday: 1 p.m. – midnight

**Summers hours are modified and are posted on the Web page.**

Software Training Services develops Web-based tutorials and documentation for student self-service applications, the portal (ZipLine), Springboard!, and email (WebMail). For more information, visit Software Training Service’s Web site at http://www.uakron.edu/its/learning/training/index.php.

Computer Based Assessment & Evaluation provides support to students who are required to take surveys, assessments and tests online. The testing lab is located in Schrank Hall North 152 and reservations for test appointments can be made at http://cbt.uakron.edu. CBA & E provides support for the following:
- Develops and delivers tests, surveys and other assessment instruments on a variety of platforms.
- Administers academic computer testing in a secured, proctored environment.
- Administers placement testing for incoming university students.
- Develops specialized test and system applications.

Design and Development designs, develops, implements, administers and supports Web-based, Web-enhanced and multimedia applications at The University of Akron. Our team is composed of instructional, curriculum, graphics and multimedia designers and producers.

- **We provide a Web presence for traditional and online courses by creating and supporting courses using e-learning system, currently, Springboard!.
- We support departments in the design and development of online programs and courses that provide access and interaction.
- We support faculty in the design and development of Web-based and Web-enhanced course materials, including multimedia and assessment.
- We support students in accessing and using these courses.
- **We provide digital photography, imaging, videotaping, editing and podcasting for courses, other university initiatives, and community partners.
- We offer live and on-demand video streaming and hosting.
- We support the use of a classroom response system (clicker technology), currently CPS, for courses and special events.
- We offer Web site design and other graphic design for a variety of applications.
- We explore emerging technologies and how they can be used to enhance teaching and learning, and we offer training on a number of these technologies.
- **We support students in accessing and using these technologies.

For further information, contact Design & Development Services at (330) 972-8290.

**For more information about Springboard!**, navigate to: http://www.uakron.edu/its/learning/training/SpringBoard.php.

**For more information about clicker technology, navigate to:**
http://learn.uakron.edu/dl/clickers.htm.

Distance Learning Services: Distance Learning Services provides synchronous videoconferencing and Web collaboration capabilities to the classroom environment. Students at the University are able to interact and share materials with students at one or more remote locations via classrooms equipped with state-of-the-art videoconferencing and Web collaboration technologies. In addition to accommodating traditional course offerings, Distance Learning Services also provides:

- A corporate videoconferencing suite ideal for group meetings and personal interviews.
- A relationship with a network of content service providers that specialize in events such as virtual field trips.
- Special event connections that support educational initiatives, i.e. work shops and professional development.

For further information, contact Distance Learning Services at (330) 972-2720.

Audio Visual Services: Audio Visual Services is located on the ground floor of Bierce Library, Room 75.

- **Call (330) 972-7811 to order audio visual equipment. Staff will deliver equipment on campus, assist with the set up of the equipment and will help troubleshoot any technical problems.

**Hours of operation during the Fall and Spring semesters:**
- Monday-Thursday: 7:30 a.m. - 9 p.m.
- Friday: 7:30 a.m. - 5 p.m.
- Please call (330) 972-7811 for summer hours.

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 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 – UA’s library catalog
- OhioLINK – the library catalogs of all State of Ohio universities and colleges
- Electronic Mail (e-mail)
- The Internet
- UAnet’s Web pages
- 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

Katharine Owens, Ed.D., Associate Director of Operations

The Akron Global Polymer Academy at The University of Akron assists the College of Polymer Science and Polymer Engineering in creating and disseminating knowledge about polymer science, polymer engineering, and Science, Technology, Engineering, and Mathematics (STEM) education by supporting initiatives in P-16 education and other distributive education ventures. Providing consulting and training services to the polymer industry world wide, the Akron Polymer Training Center is the workforce development division of the Akron Global Polymer Academy.

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
The University of Akron has a long and proud history of the interdisciplinary study of conflict and its resolution. 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, 330-972-5855, wlyons@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 (CEMHSPR) 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
Ira D. Sasowsky, Ph.D., Director
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 Studies
Richard Glotzer, Ph.D., Director
The Center for Family Studies, established in 1979, was designed to stimulate and encourage the interdisciplinary study of the family. It serves both the University and the community by fostering collaboration between faculty, students, practitioners and community leaders on curriculum development, educational conferences and seminars, research and training, and public policy relevant to important family issues.

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

The Center offers certificates in the following specialty areas: Divorce Mediation; and Home-Based Intervention. For more information, please refer to the descriptions of Interdisciplinary andCertificate 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/interventions for older adults. The Center has a dual 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 preserve, commission, and university teachers together with children and families in the greater Akron area through a wide range of literacy related projects. Further information about the Center for Literacy can be found at http://www.uakron.edu/college/edcrypto/index.php.

Center for Nursing
Annette Mitzel, MSN, RN, Director
The Center for Nursing is a part of the University of Akron’s College of Nursing. It is an education and practice center for College of Nursing faculty and students as well as faculty and students from other health care disciplines on campus. 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, Ph.D., 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 Center 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 Policy Studies
Karl Kaltenhauser, Ph.D., Director
The Center for Policy Studies is a multidisciplinary group of faculty and staff who specialize in studies of public opinion and public policy. Center researchers seek to understand the nature and sources of mass attitudes toward policy issues. Center research also focuses on the causes and consequences of policy decisions. The faculty members who make up the Center study these issues from a domestic and international perspective. The Center also offers its expertise to the public for those who wish to commission studies of public opinion or policy issues relevant to the research specialties of the fellows of the Center.

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, strategic program planning, health care 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.

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 for theses, dissertations, and research. The office is located in the College of Arts and Sciences Building, Room 118A. When requesting statistical consulting refer to the Center’s website at http://www3.uakron.edu/consulting.html fill out the Request for Statistical Consulting form and e-mail it to the department on the available link. The department will contact you for an appointment.

Center for Urban and Higher Education
Bridge Ford, Ph.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. Grant monies may be available to help with costs.

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 non-native 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 language proficiency tests to meet the University’s English requirement. The Test of English as a Foreign Language, or the ELI-ASSET, Academic Study Skills and English Test, along with ELI course grades may be used to successfully complete the ELI and begin academic coursework. 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 services including private tutoring and consulting (e.g., editing of documents, language assessment).

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/, email 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

Steven R. Ash, 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

Il-Woon Kim, Ph.D., Associate 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 non-profit 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

Helen Qammar, Ph.D., Director

Mission
The Institute for Teaching and Learning at The University of Akron coordinates, promotes, and supports efforts to improve the success of our students both inside and outside the classroom, and to advance and disseminate scholarly investigations into the teaching and learning process as well as discipline-specific research activities involving students.

The ITL’s 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, service learning, pedagogy, and inclusive excellence

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.

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 undergraduate 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 63 faculty in over 20 different departments, representing 24 colleges. Students in the certificate programs carry out field placements at numerous community service settings. There are over 30 courses at the undergraduate and graduate levels. Research, education, training and service support has been received from the U.S. Administration on Aging, National Institute on Aging, U.S. Department of Education, Office of Special Education and Rehabilitation Services, National Institute on Disability and Rehabilitation Research, AARP Andrus Foundation, Ohio Department of Aging, and Area Agency on Aging 10B. The Institute 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 Tri-County Senior Olympics.

Institute of Polymer Engineering

Roderic P. Quirk, Ph.D., Interim Director

The Institute of Polymer Engineering carries out basic and applied research in polymer processing, composite performance, and materials characterization. The Institute, founded in 1963, is a major intellectual and research resource in Northeast Ohio. The Institute maintains traditional and futuristic processing and characterization laboratories, with continued interest in investigation of new process technology and new materials. The Institute serves the polymer industry as a source of technical assistance with processing trials and materials characterization. The Institute provides research support and technical service to the Department of Polymer Engineering.

The Maurice Morton Institute of Polymer Science

Roderic P. Quirk, Ph.D., Interim 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. The Institute provides research support and technical service to the Department of 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
Michael Jalbert, Interim 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
Captain Philip W. McLean, Director of Training
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. The Center employs 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 and the Emergency Management degree program in association with other state and nationally recognized professionals.

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 trainees. 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. ULieline is an informative mental health and wellness link on the Web page.
- 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 Web page.
- 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. Numerous educational outreachs are provided throughout the campus community which includes a wide variety of topics such as, resume writing, job search skills, dress for success, etiquette dinners and mock interviews. In addition, CCM offers leadership opportunities for students and sponsors career expos in collaboration with academic colleges, giving students the opportunity to network with hundreds of potential employers. CCM maintains a career resource library that enables students and alumni to utilize computers, employer literature, videotapes, job search information, job openings and career related books and periodicals. Career consultations are also available and may be scheduled by contacting the Center for Career Management. The Center is located in Simmons Hall, Room 301 and can be contacted at (330) 972-7747 or via the web at http://www.uakron.edu/ccm.

Student Health Services
Student Health Services, located in Suite 260 of the Student Recreation and Wellness Center, assists students in achieving their educational and personal goals by addressing their health care concerns while they are enrolled at The University of Akron. The student who becomes seriously ill or suffers a serious injury on campus should be taken to an emergency room 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 students enrolled for six or more credit hours. The student insurance provides coverage for such items as hospitalization, surgical benefits, and in-hospital medical benefits. Brochures describing details of the student health insurance plan may be obtained at Student Health Services.
- Completed health forms and other health-related records are confidential and are kept in the Student Health Services offices. For more information, contact Health Services at (330) 972-7808. University assumes no legal responsibility or obligation for the expenses of such transportation for or medical services at the hospital.

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 educational and academic experiences. 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) 972-7920 or (330) 972-5784 (TTY), or see our Web site 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 flextime and half-day programs 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 houses numerous functions of student life and student engagement, and serves the students, faculty, and staff. This facility offers various food venues, meeting rooms, a movie theater, a game room, Computer Solutions—The University of Akron’s computer technology store, a ZipCard office, the DocuZip copy center, a bank, a Tick-etmaster outlet, the Information Center, Barnes & Noble Bookstore, Planet Underground, a DVD an CD store, student organization offices, and Starbucks Coffeehouse. Visit our website at www.uakron.edu/studentunion.
- Food Areas. On the first level is Zee’s convenience store, which has a variety of items, including sundry items for the busy student. On the second level are Subway, Auntie Anne’s, Sizzling Zone, the Union Market and Starbucks.
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 South 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 enforce-
ment authority and responsibilities identical to the local police or sheriff. The UA Police Department works closely with the Akron Police Department and other law enforce-
ment agencies. Reports are exchanged every business day so that both agencies receive pertinent information. Information is shared through personal contacts and by phone and radio. University and City of Akron police regularly work together at large campus events such as athletic competitions and dances.

UA Police officers have met or exceeded the training standards of the Ohio Peace Offi-
cers 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 sub-
stances, 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, pre-
serve, and deliver feelings of safety and security through quality services to the mem-
bers 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 Com-
munities 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 Uni-
iversity 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 institu-
tion, and each of us as individuals, must eliminate the use of illicit drugs and alco-
hol that contribute to the unrecoverable loss of time, talent, and lives.

Crime Prevention
Through the Office of Crime Prevention, University police officers provide educa-
tional programs to students and employees on personal safety, sexual assault/ 
acquaintance rape prevention, drug and alcohol abuse prevention, and related top-
ics. The University Police Department welcomes the chance to talk with any cam-
pus 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 com-
plainant will be provided a phone number where the complaint can be filed. Like-
wise, 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 appoint-
ment 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 cam-
pus 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 cam-
pus areas and report suspicious individuals or activities directly to the police dis-
patch center.

Emergency Phones
Yellow or red emergency phones are directly connected to the UA Police Depart-
ment. These phones are strategically located throughout campus pedestrian walk-
ways 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/crimprev.htm. 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..............................................6866
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.

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

History of the Graduate School
Graduate study began a few years after Buchtel College opened its doors, and the first earned master’s degree was conferred in 1882. The College of Education awarded its first master’s degree in 1924, the Colleges of Engineering and Business Administration in 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 Communicative 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. Harrington, Jr. served as director of graduate studies from 1950 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. Claibourne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977/78. Joseph M. Walton, associate dean of Graduate Studies and Research, was administrative head of the Graduate School during the 1977-78 academic year. Dr. Alan N. Gent was appointed dean of Graduate Studies and Research in 1978 and served in that capacity until 1986. Dr. Joseph M. Walton served as acting dean of Graduate Studies and Research from 1986 until 1989. In 1989 Dr. Patricia L. Carroll became dean of the Graduate School. Dr. Charles M. Dye was named interim dean in 1993 and became the dean of the Graduate School in 1995 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, educational leadership, engineering (biomedical, chemical, civil electrical, engineering applied mathematics, mechanical, and polymer), guidance and counseling, history, nursing, polymer science, psychology, secondary education, sociology, 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 with 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 of 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 upperlevel 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 dead- line 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 $40. A fine 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 accepted will vary among departments and from term to term. An accepted applicant may begin graduate work in the fall, spring or summer semester. The offer of admission is void, however, if the applicant does not register for courses within two years from the time of admission. An individual whose offer of admission has lapsed must reapply for consideration.

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 postbacca-
laureate 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 given to any applicant who desires to pursue a graduate degree and has a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better 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-year standing or its equivalent, plus satisfactory evidence of competence in English. Full admission may also be granted to applicants to the College of Business Administration who meet the college’s admission requirements.

- **Provisional Admission** may be given to a person who has not met all of the requirements for full admission (2.4–2.5 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 given 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. Graduate courses taken under this admission status may be applied later to a graduate degree program, but only when all requirements for full admission have been met.

- **Special Workshop Status** is for a person permitted to take workshops for graduate credit without being admitted to Graduate School. Such permission is granted by the workshop director upon receipt of a signed statement of possession of a baccalaureate degree by the applicant, and 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 permission to enroll at The University of Akron. Such permission is valid only for the courses and semester specified, with a maximum of 10 semester credits allowable, and is subject to the approval of the instructor, department chair and Graduate School. A transient student is subject to the same rules and regulations as a regularly enrolled student of the University.

- **Undergraduate status** is for an undergraduate student at the University who may be granted permission to take one or more graduate-level courses if all the following conditions are met:
  - senior standing (at least 96 credits completed);
  - overall grade-point average of 2.7 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 undergraduates and applied later toward a graduate degree is 12. Graduate tuition and fees will be charged for all graduate courses taken by an undergraduate.

- **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 degree completion and who accumulates six semester credits of “F” 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 reenrolled 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 special workshop 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 credit. 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 but special requests will be considered. Requests should be submitted, in writing, to the dean of the Graduate School who will review such requests with the appropriate college dean and department chair.

Sixty-Plus (60+) Program

The University of Akron’s Sixty-Plus Program provides residents 60 and older the opportunity to audit 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 unavailable 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.

Financial Assistance
The University awards a number of graduate assistantships to qualified students. These assistantships provide stipends of $6,000 to $22,000 plus remission of tuition and some 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.

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.

International Students
The University of Akron welcomes international students and seeks to make their educational experience pleasant and meaningful. Each year, approximately 880 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. A nonrefundable application fee of $40 must also be submitted.
- 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-20A/B or DS-2019) upon receipt of adequate financial support and admission to the University.
- A minimum score of 550 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. This exam must also indicate 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 2008-2009 academic year will be approximately $23,000. 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 two weeks before Fall classes begin and the week before Spring classes begin and costs $80 (cost subject to change).

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” for its equivalent to be eligible for transfer credit.

Teaching Assistants
Applicants whose native language is not English and who expect to become teaching assistants, are also required to achieve a minimum score of 50 on the Test of Spoken English (TSE, Revised 1996), a minimum score of “Pass” on the U-ADEPT, or a 23 or greater on the speaking component of the internet-based TOEFL. This exam must also indicate 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 2008-2009 academic year will be approximately $23,000. Tuition is subject to change.

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 2008-2009 academic year will be approximately $23,000. Tuition is subject to change.

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 or http://www.uakron.edu/programs/eli.

Successful completion of 24 credit hours of upperlevel 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.

Successful completion of an undergraduate or graduate program at a university outside the United States in which English is the language of administration and instruction. English must be used for all administrative functions and for all areas of instruction (with the exception of foreign language courses) including course lectures, materials, discussions, readings, and writing assignments. Applicants must submit an original official document from the undergraduate or graduate institution certifying that all of the administrative functions and instruction are conducted in English. The document must be signed by an officer of the institution and carry an official seal. The Associate Dean of the Graduate School at The University of Akron will review the submitted document and inform the applicant if he or she has satisfied the English requirement. The decision will be final.

General Information

Grades
A student admitted to graduate study under any status at the University is expected to maintain a minimum 3.00 grade-point average at all times. A minimum grade-point average of 3.00 is required for graduation. No more than six semester credits of “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</th>
<th>Points</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>0.0</td>
<td></td>
<td>Failure</td>
</tr>
<tr>
<td>D</td>
<td>0.0</td>
<td></td>
<td>Credit</td>
</tr>
<tr>
<td>D-</td>
<td>0.0</td>
<td></td>
<td>No credit</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td></td>
<td>Audit</td>
</tr>
<tr>
<td>CR</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUD</td>
<td>0.0</td>
<td></td>
<td></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.”

IP – In Progress: Indicates that the student has not completed the scheduled course work during the term because of 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.

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 graduate 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 graduate grade point 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 recalulation 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.

Repeating Courses

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

Audit Policy

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

Thesis and Dissertation Credits

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

Colloquia, Seminars and Workshops

Colloquium (credit/noncredit grading)—A course that normally involves guests, faculty or graduate students as speakers. The intent of the course is to introduce a broad range of topics using resource personnel. Normally, assignments are limited to class participation.

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

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

Probation and Dismissal

Any student whose cumulative graduate grade-point average falls below 3.00 will be placed on probation and is no longer in good standing. In consultation with the college or department, as appropriate, the dean of the Graduate School will dismiss full-time students who do not return to good academic standing within two consecutive semesters (excluding summers) and part-time students who do not return to good academic standing within the attempting of 15 additional credits. For the purpose of administration of the full-time and part-time provisions of this policy, full-time and part-time status are determined by the semester in which the student goes on probation. Full-time enrollment constitutes nine or more graduate credits; part-time is less than nine graduate credits.

The dean of the Graduate School, with the approval of the relevant department chair, may also dismiss anyone who fails to make satisfactory progress toward declared goals or who accumulates six semester credits of “C+” or below. The accumulation of six semester credits of “F” will result in mandatory dismissal.

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

*Grades of “D+,” “D,” and “D-” are treated as “F” grades. (See previous section on Grades.)

Commencement

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

Students must apply for advancement to candidacy in advance of completing degree requirements. The Advancement to Candidacy form also serves as the Graduation Application. The student will be placed on the graduation list for the degree and term he or she indicates on the form.

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

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 the university.

The following reprimands are applied in the following grades:

<table>
<thead>
<tr>
<th>Grade</th>
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</thead>
<tbody>
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</tr>
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<td>0.0</td>
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</tr>
</tbody>
</table>

Grading

Grades of “D+,” “D,” and “D-” are treated as “F” grades. (See previous section on Grades.)
www.uakron.edu/student/afford, in Carroll 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 appropriately 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 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 all other legal purposes.

3. A dependent child of a parent or legal guardian or the spouse of a person who, as of the first day of a term enrollment, has accepted full-time self-sustaining employment and established domicile in the state of Ohio for reasons other than gaining the benefit of favorable tuition rates. Documentation of full-time employment and domicile shall include both of the following documents:
   a. A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that parent or spouse of the student is employed full-time in Ohio.
   b. A copy of the lease under which the parent or the spouse is the lessee and occupant of rented residential property in the state; a copy of the closing statement on residential real property located in Ohio of which parent or spouse is the owner and occupant; or if parent or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that parent or spouse resides at that residence.

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

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

2. Criteria evidencing lack of residency:
   a. If a person is a resident 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.

5. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered resident of Ohio for all other legal purposes and his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.

6. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered resident of Ohio for all other legal purposes.

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.

### Fees

All fees reflect charges in 2008-2009 and are subject to change without notice. Application Fee (this fee is not refundable under any circumstances)

<table>
<thead>
<tr>
<th>Type</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>$30.00</td>
</tr>
<tr>
<td>International</td>
<td>$40.00</td>
</tr>
<tr>
<td>Domestic Student Reappraisal Fee</td>
<td>$25.00</td>
</tr>
<tr>
<td>International Student Reappraisal Fee</td>
<td>$25.00</td>
</tr>
</tbody>
</table>
| Retroactive Continuous Enrollment Requirement Fee | $400.00/hr per semester

*Tuition Fees*

<table>
<thead>
<tr>
<th>Type</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident student per credit</td>
<td>$342.47</td>
</tr>
<tr>
<td>CBA student per credit</td>
<td>$378.02</td>
</tr>
<tr>
<td>Nurse Anesthesia student per credit</td>
<td>$421.00</td>
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<td>Non-resident student per credit</td>
<td>$587.50</td>
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<tr>
<td>Non-resident CBA student per credit</td>
<td>$623.05</td>
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<tr>
<td>Non-resident Nurse Anesthesia student per credit</td>
<td>$666.03</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per credit hour</td>
<td>$13.07 per credit</td>
</tr>
<tr>
<td>Maximum of</td>
<td>$156.84 per semester</td>
</tr>
<tr>
<td>Administrative Fee*</td>
<td>$12.00 per term</td>
</tr>
<tr>
<td>Per credit hour</td>
<td>$11.15</td>
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<tr>
<td>Maximum of</td>
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<tr>
<td>Technology Fee</td>
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<tr>
<td>Library Fee</td>
<td>$3.00</td>
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<tr>
<td>Per credit hour</td>
<td>$3.00</td>
</tr>
<tr>
<td>Engineering Infrastructure Fee</td>
<td>$15.00</td>
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<tr>
<td>Per credit hour (all Engineering courses)</td>
<td>$15.00</td>
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*International Executive MBA Program*

<table>
<thead>
<tr>
<th>Type</th>
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<tbody>
<tr>
<td>Tuition Deposit (Due July 15)</td>
<td>$5,000.00</td>
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<tr>
<td>First Semester</td>
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<td>Second Semester</td>
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<td>Third Semester</td>
<td>$10,000.00</td>
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<tr>
<td>Application Fee</td>
<td>$120.00</td>
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<td>Waiver Exam Fee</td>
<td>$250.00</td>
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*Master of Public Health Program*

<table>
<thead>
<tr>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>$450.00 per credit hour</td>
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<tr>
<td>Non-resident surcharge</td>
<td>$245.03 per credit hour</td>
</tr>
<tr>
<td>Parking</td>
<td>$110.00 per semester</td>
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</tbody>
</table>

*Master of Fine Arts*

<table>
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<tr>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>$436.00 per credit hour</td>
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<tr>
<td>Non-resident surcharge</td>
<td>$245.03 per credit hour</td>
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<tr>
<td>Parking</td>
<td>$110.00 per semester</td>
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</tbody>
</table>

### 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 hall) 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 1-800-801-0566. Inquiries may be directed to the Office of Student Financial Aid, Spicer 119, 330-972-7032 or 1-800-621-5847.

### 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 dis-
tributed 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:
- Instructional fee (tuition) and nonresident surcharge.
- General fee.
- Course materials and computing fee
- Student parking fee (only if permit is returned).
- Student teaching fee.
- Laboratory breakage and late service deposit.
- Residence hall fees (note: subject to special policy).
- 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 fifth 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.

Credits earned in courses taken for undergraduate study with a grade of “C” or better are not applicable to the master’s degree. A University of Akron student who seeks to enroll in courses elsewhere for transfer credit here must receive prior approval.

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 but no later than prior to the final semester of the graduate 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, submitted an advancement to candidacy application; paid all applicable fees; and met any other applicable department and University requirements.

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/vgdnThesDiss.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.

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 50 percent of the total credits above the baccalaureate required in each student's doctoral program must be completed at the University. A maximum of six workshop credits may be applied to a doctoral degree. Such credits must be relevant to the degree program, recommended by the student's 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 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-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 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 2.00 or better. Transfer credits from other institutions will 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 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 requirements.

*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 but no later than prior to the final semester of the graduate 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

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; paid all applicable fees; and met any other applicable department and University requirements.

SECTION 4.
Graduate Studies

Buchtel College
of Arts and Sciences

Ronald F. Levant, Ed.D., ABPP, MBA, Dean
Annabelle Foos, Ph.D., Associate Dean
William A. Francis, Ph.D., Associate Dean
Charles B. Monroe, Ph.D., Associate Dean

Mission Statement

The mission of the Buchtel College of Arts and Sciences is to provide high quality education in humanities, social sciences, and natural sciences. These varied disciplines constitute the foundation of a liberal arts education.

The College strives to foster excellence in teaching, scholarship, and service in a positive environment that will enhance lifelong learning and student accomplishment.

The College develops independent learning, critical thinking, personal responsibility, and leadership to prepare graduates to fulfill their career objectives in an environment of societal and cultural change.

Organization

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 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 their 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 technologies 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.

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.
- Complete oral exam requirement.
Doctor of Philosophy in Counseling Psychology

The University of Akron offers a doctoral program in Counseling Psychology. The Collaborative Program in Counseling Psychology allows the student a choice of entry points through the Psychology Department of the Buchtel College of Arts and Sciences or through the Counseling Department of the College of Education. The Collaborative Program in Counseling Psychology is accredited by the American Psychological Association [http://www.apa.org/ed/accreditation/homepage.html]. 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. All applied service and internship experiences must be under the supervision of licensed practicing psychologists. Students also must complete coursework in psychology and counseling psychology. The program emphasizes professional development, and 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 (610, 620, 630, 640, 650) 10
- Counseling psychology core courses (707, 709, 710, 711, 712, 713, 714, 715, 717) 33
- Practicum sequence (672 [2+2+2+2], 673 [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 waived 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 selected by the student and for demonstrated ability to pursue independent research. Each student must:

- Fulfill admission requirements of the Graduate School.
- The Graduate Committee of the History Department will consider an applicant for admission if a person has a Master’s degree or the equivalent and a grade-point average of 3.5 or better at the M.A. level from an accredited institution. Those holding a Master’s degree from The University of Akron or other accredited institution

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. 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 preparation in physics may be required to audit certain undergraduate prerequisites for chemistry graduate courses, and visa versa for students whose principle preparation is in chemistry.

Doctor of Philosophy in Integrated Bioscience

The Departments of Biology, Theoretical and Applied Mathematics, Biomedical Engineering, Chemical and Biomolecular Engineering, Chemistry, Civil Engineering, Computer Science, Geology, Physics, and Polymer Science and Polymer Engineering 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 critical 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, although not required it is highly recommended that applicants also submit subject GRE in the field of undergraduate degree, 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

- Strong letters of recommendation
- Willingness of one or more potential advisors to take student on as an advisee
Doctor of Philosophy in Psychology

The Department of Psychology offers a doctoral degree in psychology with specialization in either industrial/organizational psychology or adult development and aging.

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 94 minimum credit requirement;
  - completion of Ph.D. core courses in the student’s specialty area: industrial/organizational or adult development and 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 adult development and 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 adult development and aging (refer to the department’s graduate student manual);
- Dissertation research:
  - completion of 3750:889 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.

The Psychology department at The University of Akron and Cleveland State University offers a joint doctoral program in the Psychology of Adult Development and Aging. Students admitted to the program are required to take approximately equal amounts of coursework at each institution. The coursework covers the areas of research methods/design, foundation courses in adult biobehavioral functioning, adult psychosocial functioning, and advanced research seminars. The doctoral degree will require a minimum of 94 credit hours of coursework comprised of 78 classroom hours from the following:

- 3750:601 Psychological Research Using Quantitative and Computer Methods I
- 3750:602 Psychological Research Using Quantitative and Computer Methods II
- 3750:640 Core IV: Biopsychology
- 3750:727 Psychology of Adulthood and Aging
- 3750:740 Industrial Gerontology
- 3750:754 Research Methods in Psychology
- 3750:780 Graduate Seminar in Psychology: Additional Research Methods Courses (Multivariate Methods, Factor Analysis, Structural Equation Modeling)
- 3750:731 Perception, Attention, and Aging
- 3750:722 Cognition and Aging
- 3750:736 Psychopharmacology in Adulthood
- 3750:728 Social Aging

In addition, students will complete four thesis waiver credit hours, six dissertation credit hours, and six thesis/dissertation independent study credit hours (for a minimum total of 94 credit hours). An individual student’s point of entry into the program is at one of the two partner institutions.

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 interchanged 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. Applicants whose native language is not English must also score at least 577 (paper-based) or 233 (computer-based) on the Test of English as a Foreign Language (TOEFL).

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 specialty area.
- 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.

Programs of advanced study leading to the master’s degree are offered by the departments of biology, chemistry, computer science, economics, English, geography and planning, 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
• Submit three letters of recommendation for graduate assistantship
• Score of 25th percentile or higher on the GRE Biology subject 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.

Thesis Option II
This program is intended for Medical Doctors and Doctors of Osteopathic Medicine who have graduated from an accredited U.S. medical school.
• Course work in addition to the master’s research and seminars (must be approved by the graduate advisor) – 16 credits (no transfer credits are allowed for this option).
• Research and thesis – minimum of 12 credits.
• Participation in seminars – a maximum of two credits.

Nonthesis Option
This program is designed exclusively for secondary school teachers for whom the M.S. probably will be a terminal degree and who do not need research experience. The program is open only to applicants possessing a teaching certificate or those coregistering with the College of Education and showing normal progress towards qualifying for a certificate.

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

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

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

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
  or
  3460:635 Advanced Algorithms and Complexity Theory
In addition, each student must complete at least one course from each of the following three areas:
  C. Applications: 3460:658, 660, 676.

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. In addition, 3 credits in 3460:698 Master’s Research 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 3460:698 Master’s Research. 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.

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 3000:501 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.

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 3
3250:611 Microeconomic Theory I 3
3250:620 Applications of Mathematical Models to Economics* 3
3250:626 Statistics for Econometrics* 3
3250:627 Econometrics 3

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

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.

Graduation Requirement: Candidates for graduation must see the Department of English Graduate Coordinator to complete the departmental Graduate Student Survey.

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† 3
3300:570 History of the English Language† or
3300:670 Modern Linguistics† 3
3300:615 Shakespearean Drama† 3
3300:665 Literary Criticism 3

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

British

Up to 1660
1660-1900
1900-present

American

Up to 1865
1865-present

Graduation Requirement: Candidates for graduation must see the Department of English Graduate Coordinator to complete the departmental Graduate Student Survey.

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.
Graduation Requirement: Candidates for graduation must see the Department of English Graduate Coordinator to complete the departmental Graduate Student Survey.

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:
- 3300:650 The New Rhetorics
- 3300:673 Theories of Composition
- 3300:674 Research Methodologies in Composition

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:
- 3300:579 Management Reports
- 3300:625 Autobiographical Writing
- 3300:679 Scholarly Writing

Optional courses:
- 3300:660 Cultural Studies: Theory and Practice
- 3300:689 Contemporary Reading Theory
- 3300:689 Composition and Rhetoric
- 3300:689 Literature and Composition

Graduation Requirement: Candidates for graduation must see the Department of English Graduate Coordinator to complete the departmental Graduate Student Survey.

1 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 letters 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 by taking classes restricted to graduate students only, except as noted below:
- Writing Workshops - 15 credits
- Craft and Theory Courses - 6 credits
- Literature Courses - 9 credits
- Internship - 3 credits
- Thesis - 6 credits
- Electives - 9 credits, up to six of which may be from advisor-approved courses not solely restricted to graduate students

A total of 48 credit hours is required for the MFA in Creative Writing. Up to nine credits from previously uncompleted graduate degrees may be accepted for transfer credit in the NEOMFA program.

Geography and Planning

Master of Arts in Geography

Thesis Option
- 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
  - 3350:690, 691, 692 Seminar (6 credits)
- Geography and Planning Electives (24 credit hours)
  Graduate courses from the Department of Geography and Planning

Nonthesis Option
- 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
  - 3350:690, 691, 692 Seminar (6 credits)
- Geography and Planning Electives (24 credits)
  Graduate courses from the Department of Geography and Planning

Graduate courses from the Department of Geography and Planning

Any course taken outside the department must be approved in advance by the student’s graduate advisor or department chair.

No more than three credits of 3350:698 Independent Reading and Research

Nonthesis Option
- 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
  - 3350:690, 691, 692 Seminar (6 credits)
- Geography and Planning Electives (24 credits)
  Graduate courses from the Department of Geography and Planning

Any course taken outside the department must be approved in advance by the student’s graduate advisor or department chair.

No more than three credits of 3350:698 Independent Reading and Research

Master of Fine Arts in Geography/Geographic Information Sciences

Thesis Option
- Core Requirements (18 credits)
  - 3350:581 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:596 Field Research Methods
  - 3350:687 History of Geographic Thought
  - 3350:690, 691, 692 Seminar (6 credits)
- Geotechniques Requirements (9 credits)
  - 3350:505 Geographic Information Systems
  - 3350:540 Cartography
  - 3350:547 Remote Sensing
- Geotechniques Electives (9 credits)
  - 3350:541 Global Positioning Systems (GPS)
  - 3350:542 Cartographic Theory and Design
  - 3350:544 Applications in Cartography and GIS
  - 3350:545 GIS Database Design
  - 3350:546 GIS Programming and Customization
  - 3350:549 Advanced Remote Sensing
- Geography and Planning Electives (9 credits)
  Graduate courses from the Department of Geography and Planning

Any course taken outside the department must be approved in advance by the student’s graduate advisor or department chair.

No more than three credits of 3350:698 Independent Reading and Research

Nonthesis Option
- Core Requirements (18 credits)
  - 3350:581 Research Methods in Geography and Planning
  - 3350:583 Spatial Analysis
  - 3350:596 Field Research Methods
  - 3350:687 History of Geographic Thought
  - 3350:690, 691, 692 Seminar (6 credits)
- Geotechniques Requirements (9 credits)
  - 3350:505 Geographic Information Systems
  - 3350:540 Cartography
  - 3350:547 Remote Sensing
- Geotechniques Electives (9 credits)
  - 3350:541 Global Positioning Systems (GPS)
  - 3350:542 Cartographic Theory and Design
  - 3350:544 Applications in Cartography and GIS
  - 3350:545 GIS Database Design
  - 3350:546 GIS Programming and Customization
  - 3350:549 Advanced Remote Sensing
- Geography and Planning Electives (9 credits)
  Graduate courses from the Department of Geography and Planning

Any course taken outside the department must be approved in advance by the student’s graduate advisor or department chair.

No more than three credits of 3350:698 Independent Reading and Research
Master of Arts (Geography/Urban Planning)

Thesis Option

• 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
  3350:600, 601, 602 Seminar (3 credits)

• Geography and Planning Electives (15 credits)

Graduate courses from the Department of Geography and Planning

Any course taken outside the department must be approved in advance by the student’s graduate advisor or department chair

No more than three credits of 3350:698 Independent Reading and Research

• 3350:686 Planning Internship (3 credits)

• Thesis

At least 9 credits and no more than 15 credits of 3350:699.

Nonthesis Option

• 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
  3350:600, 601, 602 Seminar (3 credits)

• Geography and Planning Electives (15 credits)

Graduate courses from the Department of Geography and Planning

Any course taken outside the department must be approved in advance by the student’s graduate advisor or department chair

No more than three credits of 3350:698 Independent Reading and Research

• 3350:686 Planning Internship (3 credits)

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:
  3370:101 Introductory Physical Geology 4
  3370:210 Geomorphology 3
  3370:250 Structural Geology 4
  3450:221, 23 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 physics) or engineering, plus the equivalent of the University’s minor in geology and Geology Field Camp I and II are required. As many as eight credits may be selected from engineering, biology and/or geography with the approval of a geology advisor.

History

Master of Arts

• Students applying for admission to the M.A. program must have a minimum undergraduate grade-point average of 3.0. The applicant’s average in history courses should be substantially higher. Applicants must also have completed at least 24 semester or 36 quarter hours in history courses at the undergraduate level. An application to the M.A. program consists of the following:
  – an application form;
  – a letter of intent, stating the applicant’s reasons for seeking 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.

• Required courses:
  – 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
  – 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.
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. 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 five concentrations: American Government Institutions, American Linkage Institutions, The Politics of Criminal Justice, International Politics, or Comparative Politics.

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, or Comparative Politics.

- 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. 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* 3
  - Three additional credits required: additional credits will be counted toward elective credits.
  - 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.

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**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:

- 3650:591.2 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 28.

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 department’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 five concentrations: American Government Institutions, American Linkage Institutions, The Politics of Criminal Justice, International Politics, or Comparative Politics.

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, or Comparative Politics.

- 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. 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* 3
  - Three additional credits required: additional credits will be counted toward elective credits.
  - 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

3700:655/9200:655 Campaign Management I 3
- J.D. Elective Courses - 32 credits

At least three credits from the following courses:

9200:623 Administrative Law 3
9200:642 Alternative Dispute Resolution 3
9200:644 First Amendment Law 3
9200:646 Non-Profit Tax Entities 3
9200:659 Negotiation 1
9200:662 Media Law 3
9200:664 Local Government Law 3
9200:684 Selected Legal Problems 3 or 4
9200:698 Individual Studies and Research 2-3

- MAP Electives - 6 credits

Choose two from the following courses:

3700:502 Politics and the Media 3
3700:540 Survey Research Methods 3
3700:572 Campaign Finance 3
3700:574 Political Opinion, Behavior, and Electoral Politics 3
3700:577 Lobbying 3
3700:620 Seminar in Comparative Politics 3
3700:630 Seminar in National Politics 3
3700:668 Seminar in Public Policy Agendas and Decisions 3
3700:690 Special Topics in Political Science (Applied Politics focus) 3
3700:696 Internship in Government and Politics (in addition to required three credits) 3
7600:575 Political Communication 3

- 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.

**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 required for consideration for full admission is an overall 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>3980:600</td>
<td>Basic Quantitative Research</td>
<td>3</td>
</tr>
<tr>
<td>3980:601</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 of undergraduate major is required for admission. The GPA requirements for consideration for full admission is an overall bachelor’s 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 committees 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):
  - 3850:600 Basic Quantitative Research 3
  - 3850:601 Advanced Research and Statistical Methods 3
  - 3850:610 Legal Foundations of Public Administration 3
  - 3850:611 Introduction to the Profession of Public Administration 3
  - 3850:614 Ethics and Public Service (capstone class) 3
  - 3850:615 Public Organization Theory 3
  - 3850:616 Personnel Management in the Public Sector 3
  - 3850:640 Fiscal Analysis 3
  - 3850:642 Public Budgeting 3
  - 3850:643 Introduction to Public Policy 3
  - 3850:695 Internship 3

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./M.P.A. 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 Public Administration and Urban Studies.

Degree Requirements

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

This program reduces the total existing credit hours of the School of Law and Public Administration by nine credit hours (from 85 to 76), while public administration requirements are reduced by 12 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 3850:696, 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 1
  - 3850:604 Research Design and Methods 3
  - 3850:706 Multivariate Techniques in Sociology 3
  - 3850:722 Early Sociological Thought 3

- Complete at least six hours of thesis work (3850:699). No more than six credits will count toward the degree.
- Completion of master’s thesis and successful oral defense of thesis.

Nonthesis Option

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

Completion of 31 credits of graduate work with no more than six credits taken at the 600 level or higher in sociology (excluding 3850:696, 3850:697, 3850:698 and 3850:699). 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 1
  - 3850:604 Research Design and Methods 3
  - 3850:722 Early Sociological Thought 3
- 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 3850:696, 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 1
  - 3850:604 Research Design and Methods 3
  - 3850:706 Multivariate Techniques in Sociology 3
  - 3850:722 Early Sociological Thought 3
- 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:
  - Three semesters of calculus or equivalent
  - One semester of Linear Algebra or equivalent
  - One semester of Applied Statistics or equivalent.
- Core curriculum:
  - 3470:580 Statistical Data Management 3
  - 3470:651 Probability and Statistics 4
  - 3470:652 Advanced Mathematical Statistics 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
    - 3460:676 Data Mining 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: The program is designed to give students a solid foundation in graduate-level mathematics, provide hands-on experience in problem-solving and the uses of technology, and to allow returning mathematics teachers to upgrade their qualifications.

Administration: Upon admission to the program, each student will undergo a review. Deficiencies in any mathematical area will add to the number of credits required for graduation. Core requirements already satisfied will be replaced by approved electives.

- Core requirements:
  - 3450:510 Advanced Linear Algebra 3
  - 3450:513 Theory of Numbers 3
  - 3450:512 Abstract Algebra II 3
  - 3450:522 Advanced Calculus II 3
  - 3450:621 Real Analysis 3
  - 3450:625 Analytic Function Theory 3
  - 3450:636 Advanced Combinatorics and Graph Theory 3
  - 3450:692 Seminar in Mathematics* 2
A statistics course selected from:
3470:550 Probability 3
3470:551 Theoretical Statistics I 3
3470:661 Applied Statistics I 4
3470:661 Probability and Statistics 4

• Electives: 9-13 credits

**Thesis Option**
A minimum of 30 credits is required. All elective courses must be approved by the graduate advisor. An acceptable master’s thesis must be completed for 2-4 credits in 3450:699 Master’s Thesis. Before registering for Master’s Thesis, the student will meet with an advisory committee for evaluation of the thesis topic and will present a formal plan of development.

**Nonthesis Option**
A minimum of 33 credits is required. All elective courses must be approved by the graduate advisor. In addition, the student will generate a project or paper to complete the degree.

* 3450:692 Seminar in Mathematics may be repeated once, for a total of 4 credits.

**Master of Science – Applied 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 their graduate application and credentials evaluated by one of the departments in the College of Engineering and the Department of Theoretical and Applied Mathematics. The Admission and Degree Requirements for the Doctor of Philosophy in Engineering, as given in the Graduate Bulletin (see page 38, College of Engineering), shall apply to all applicants for the Engineering Applied Mathematics Program.

**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 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 two last 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.

Graduate coursework will include the following courses:

3450:510 Advanced Linear Algebra 3
3450:513 Theory of Numbers 3
3450:512 Abstract Algebra II 3
3450:522 Advanced Calculus II 3
3450:621 Real Analysis 3
or
3450:625 Analytic Function Theory 3
3450:636 Advanced Combinatorics and Graph Theory 3
3450:692 Seminar in Mathematics 2
3470:550 Probability 3
or
3470:551 Theoretical Statistics 3
or
3470:561 Applied Statistics I 4
or
3470:661 Probability and Statistics 4
3450:699 Master’s Thesis (for thesis option) 2-4
or
A minimum of 33 graduate credits plus a project paper for non-thesis option

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 two last 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.

Graduate coursework will include the following courses:

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 2
3450:699 Master’s Thesis 4
or
A minimum of six graduate credits approved by the graduate advisor. In addition, the student will generate a project or paper to complete the degree.

Electives: 6-13 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.

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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

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Graduate coursework will include the following courses:

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 2
3450:699 Master’s Thesis 4
or
A minimum of six graduate credits approved by the graduate advisor. In addition, the student will generate a project or paper to complete the degree.

Electives: 6-13 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.

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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

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Graduate coursework will include the following courses:

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 2
3450:699 Master’s Thesis 4
or
A minimum of six graduate credits approved by the graduate advisor. In addition, the student will generate a project or paper to complete the degree.

Electives: 6-13 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 two last 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.

Graduate coursework will include the following courses:

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 2
3450:699 Master’s Thesis 4
or
A minimum of six graduate credits approved by the graduate advisor. In addition, the student will generate a project or paper to complete the degree.

Electives: 6-13 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.
College of Engineering

George Haritos, Ph.D., Dean
D. Dane Quinn, Ph.D., Associate Dean for Research
Paul C. Lam, Ph.D., Associate Dean,
Undergraduate Studies and Diversity Program

Mission of the College
The College of Engineering at the University is committed to excellence in undergraduate and graduate education. The College of Engineering was founded in 1914 and is the second oldest college at the University. The College embraces the departments of Biomedical Engineering, Chemical Engineering, Civil Engineering, Electrical and Computer Engineering, and Mechanical Engineering. The current research focus of the College includes: gas turbine technology, filtration technology, nanotechnology, lightweight automobile research, aero-propulsion technology, catalysis, industrial controls, computational mechanics, smart materials, composites and civil structures, and a variety of modeling and simulation issues of engineering problems. During the academic year 1989-90, the College adopted interdisciplinary procedures for the doctoral program offered by the College. The program is truly interdisciplinary in nature.

The mission of graduate education in 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 (OA). DOCTOR OF PHILOSOPHY IN ENGINEERING DEGREE

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

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

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

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

The GRE minimum requirement for admission into a graduate program in the College of Engineering (both master’s and doctoral) is 1150. The GRE score is derived by using the following formula: Quantitative Score + 100 x 4/3 x Analytical Score. The GRE requirement may be waived for students holding degrees from ABET accredited programs (if the department approves).

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 weaknesses.
- 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 theoretical 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 Physicochemical Engineering** studies small particles, surface science, agglomeration, and separation as applied to process engineering.

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

---

**Coordination 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, he or she shall prepare a letter of intent, with 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.

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**Coordination Program for the M.D. and Ph.D. in Engineering degree between The University of Akron and the Northeastern Ohio Universities College of Medicine.**

The College of Engineering and NEOMED 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 NEOMED.

**Admission Requirements**

Applicants with a bachelor’s or master’s degree in a discipline other than engineering or in engineering will be required to meet the Admission Requirements for the Doctor of Philosophy Degree in Engineering. Applicants will be required to have completed engineering, or in engineering will be required to meet the Admission Requirements for the Doctor of Philosophy Degree in Engineering.
pleted 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. 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 NEUOCOM and a Doctor of Philosophy Degree in Engineering, the student must satisfy NEUOCOM’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.

The GRE minimum requirement for admission into a graduate program in the College of Engineering (both master’s and doctoral) is 1150. The GRE score is derived by using the following formula: Quantitative Score + 100 x 3/4 x Analytical Score. The GRE requirement may be waived for students holding degrees from ABET accredited programs (if the department approves).

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 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:600</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4200:610</td>
<td>Classical Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>4200:677</td>
<td>Chemical Engineering Electives</td>
<td>6</td>
</tr>
<tr>
<td>4200:680</td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td>4200:681</td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>4200:682</td>
<td>Master’s Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

#### Nonthesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:600</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4200:610</td>
<td>Classical Thermodynamics</td>
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</tr>
<tr>
<td>4200:677</td>
<td>Chemical Engineering Electives</td>
<td>6</td>
</tr>
<tr>
<td>4200:680</td>
<td>Approved Electives</td>
<td>15</td>
</tr>
<tr>
<td>4200:681</td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>4200:682</td>
<td>Master’s Thesis</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

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

**Students without BS in Chemical Engineering are required to take 4200:535, 4200:541.

#### Five Year BS/MS Chemical Engineering Program

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

#### Master of Science in Civil Engineering

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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:306</td>
<td>Theory of Structures</td>
<td>3</td>
</tr>
<tr>
<td>4300:313</td>
<td>Soil Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>4800:310</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>4300:323</td>
<td>Water Supply and Wastewater Disposal</td>
<td>4</td>
</tr>
<tr>
<td>4300:341</td>
<td>Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>4300:361</td>
<td>Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300:401</td>
<td>Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:403</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>

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

#### Thesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4400:360</td>
<td>Physical Electronics</td>
<td>3</td>
</tr>
<tr>
<td>4400:361</td>
<td>Electronic Design</td>
<td>4</td>
</tr>
<tr>
<td>4400:363</td>
<td>Switching and Logic</td>
<td>4</td>
</tr>
<tr>
<td>4400:384</td>
<td>Energy Conversion I</td>
<td>3</td>
</tr>
<tr>
<td>4400:385</td>
<td>Energy Conversion Lab</td>
<td>2</td>
</tr>
<tr>
<td>4400:445</td>
<td>Analog Communications</td>
<td>3</td>
</tr>
<tr>
<td>4400:453</td>
<td>Antenna Theory</td>
<td>3</td>
</tr>
<tr>
<td>4400:472</td>
<td>Control Systems II</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>26</td>
</tr>
</tbody>
</table>

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

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering Courses**</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>3</td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Courses</td>
<td>12</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>4</td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

**Nonthesis Option**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering Courses**</td>
<td>18</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

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

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

**The required electrical engineering coursework of 18 credits may not include more than six credits of 500 level courses.

**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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4600:300</td>
<td>Thermodynamics I</td>
<td>4</td>
</tr>
<tr>
<td>4600:301</td>
<td>Thermodynamics II</td>
<td>3</td>
</tr>
<tr>
<td>4600:310</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>4600:315</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>4600:336</td>
<td>Analysis of Mechanical Components</td>
<td>3</td>
</tr>
<tr>
<td>4600:340</td>
<td>Systems Dynamics and Response</td>
<td>3</td>
</tr>
<tr>
<td>4600:380</td>
<td>Mechanical Metallurgy</td>
<td>2</td>
</tr>
<tr>
<td>4600:444</td>
<td>Fundamentals of Mechanical Vibrations</td>
<td>3</td>
</tr>
<tr>
<td>4600:441</td>
<td>Control System Design</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>27</td>
</tr>
</tbody>
</table>

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

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Courses*</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

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

**Nonthesis Option**

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

**Master of Science in Engineering**

This program is intended for the student whose educational objectives cannot be met by the four departmental master of science programs or those who wish to specialize in biomedical engineering, polymer engineering, or engineering management.

**Admissions**

Except for students in biomedical engineering and polymer engineering, students should declare in writing to the Dean of Engineering of their intention to study toward the Master of Science in Engineering degree. Upon admission, the dean will appoint an advisory committee consisting of three faculty members who are selected from at least two different departments.

**Thesis Option**

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

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

**Nonthesis Option**

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

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

**Biomedical Engineering Specialization**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4800:601</td>
<td>Biomedical Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>4800:611</td>
<td>Biometry</td>
<td>3</td>
</tr>
<tr>
<td>3100:695</td>
<td>Physiology for Engineers and Lab</td>
<td>5</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

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

**Polymer Engineering Specialization**

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

**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.

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Courses 1</td>
<td>21</td>
</tr>
<tr>
<td>Management Courses</td>
<td>15</td>
</tr>
<tr>
<td>Engineering Management Report</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
</tr>
</tbody>
</table>

**Required Courses (3 credit hours each)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100:697</td>
<td>Engineering Management Report</td>
<td>2</td>
</tr>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance</td>
<td>4</td>
</tr>
<tr>
<td>6500:600</td>
<td>Management and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6600:600</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

**Elective**

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

*Engineering courses can be taken from any engineering department with approval of engineering advisor.

*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.

*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.

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

Cynthia F. Capers, Ph.D., Interim Dean
Sajit Zachariah, Ed.D., Assistant Dean for Administration and Strategic Initiatives
Evonn N. Welton, Ph.D., Assistant Dean for Student Affairs

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.

Purpose
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 Administration Office. (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)

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

1. Written and Oral Comprehensive

These Comprehensive Examinations should be taken after the completion of the first two-thirds of work and prior to the completion of three-fourths of the program with the approval of the student’s advisor. Written comprehensive examinations are offered each semester.

2. Dissertation

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

Admission Requirements
Admission to the Curricular and Instructional Studies Ph.D. program is limited to a select number of students each year. 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 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 and October 1 admission deadlines. Consult the Department of Curricular and Instructional Studies Office for specific test date.
5. Submit a current vita, three letters of academic reference, and official transcripts.

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

- All doctoral applicants must take the MAT or the GRE. Scores more than five years old will not be accepted for evaluation of the doctoral application.
- After March 31 (for Fall admission) or October 31 (for Spring admission) all candidates will be asked to schedule a twenty minute interview with the Doctoral Committee of the Department of Curricular and Instructional Studies. The opportunity to interview is no guarantee of admission.
c. Applicants who score less than 399 on the MAT or 550 on the verbal portion of the GRE, do not successfully complete the controlled writing sample, and do not meet the GPA requirement will not be admitted to the doctoral program.

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 admissions or October 1 for Spring admissions.

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 or October for Spring 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. 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 for 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.

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**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
  - 5100:740 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: Experiential/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

- **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

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**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 year-long, 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 publication 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 are required to submit a declaration of intent outlining their occupational goals and their interest in and commitment to the counseling psychology field.

- 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
- 5100:701 Statistics in Education 3
- 5100:703 Advanced Educational Statistics 3
- 5500:651 Techniques of Counseling 3
Requirements:

Course Requirements

- **5600:675/676** Practicum in Counseling I/II 8
- **3750:610** 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
- **5600:702** 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
- **5600:796** Counseling Psychology Practicum II 4
- **3750/5600:---- Required Electives** 8
- **5600:899** Doctoral Dissertation (minimum) 15
- **Minimum Total Credit Hours Required 114**

Students register for dual listed courses (3750/5600) 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 than 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 two 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 (COA). 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:

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<thead>
<tr>
<th>Course Requirements</th>
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<tbody>
<tr>
<td>5100:705</td>
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<td>5100:635</td>
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<td>5100:42</td>
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<td>5100:485</td>
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<td>5600:715</td>
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<tr>
<td>5600:716</td>
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<tr>
<td><em>(The following may not be taken until all entry-level requirements are completed)</em></td>
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<tr>
<td>5600:702</td>
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<td><em>(3 semesters, 4 credits each semester)</em></td>
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<td>5600:710</td>
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<td><em>(or)</em></td>
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<td>5600:725</td>
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<td>5600:730</td>
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<td>5600:737</td>
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<td>5600:738</td>
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<td><em>(minimum of 3 credits taken outside of the College and dependent upon specific tracks)</em></td>
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5600:785 Doctoral Internship (minimum) 6
- **5600:785** Internship Marriage and Family (must graduate with 1000 program clinical hours, see program guidelines for details) 6
- **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: Topical Issues in Marriage and Family Therapy 3
- **5600:967** Mental Therapy 3
- **Minimum Total Credit Hours Required 120**

Master’s Degree Coursework:

Students must have completed entry-level course work in all the following areas before beginning doctoral program course work:

- **5600:643** Counseling Theory (Individual) 3
- **5600:655** Marriage and Family Theory and Techniques 3
- **5600:645** Assessment 4
- **5600:647** Career Counseling 3
- **5600:651** Techniques of Counseling 3
- **5600:653** Group Counseling 3
- **5100:640** Techniques of Research 3
- **5600:660** Multicultural Counseling 3
- **5600:648** Individual and Family Development 3
- **5600:664** DSM-IV 3

Foundation course in Community, School, or Marriage and Family Counseling

5600:675 Counseling Practicum (Community, School, or MFT) 5
- **5600:685** Counseling Internship (Community, School, or MFT) 3
- **5600:660** Counseling Children (Counselor Education Program only) 3

Marriage and Family Program only - Students must have completed standard curriculum approved by AAMFT

A minimum of 60 semester hours of the total 120 hours must be taken after the student is admitted into the doctoral program in Counselor Education and Supervision. For further program details and specific admission requirements, contact the Department of Counseling.

DOCTORATE IN EDUCATIONAL LEADERSHIP

The Department of Educational Foundations and Leadership bears a special responsibility for preparing P-16 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. Professional knowledge and skills of administration are developed as they relate to larger issues of P-16 educational policy and purpose.

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)
- Current curriculum vitae/resume
- Three letters of reference addressing the applicant’s organizational, research, and communication skills
- 3.25 GPA - masters

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

<table>
<thead>
<tr>
<th>Behavioral, Historical, and Social-Philosophical Studies (12)</th>
</tr>
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<tbody>
<tr>
<td>5100:701 History of Education in American Society</td>
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<tr>
<td>5100:703 History and Philosophy of Higher Education</td>
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<td>5100:705 Seminar: Social-Philosophical Foundations of Education</td>
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<tr>
<td>5100:710 Adult Learning, Development and Motivation</td>
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<tr>
<td>5100:721 Learning Processes</td>
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</tbody>
</table>

Research (22)

5170:899 Doctoral Dissertation (student must take at least 10 semester dissertation hours but may count up to 20 toward the degree) 10

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.
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
    - 5100:624 Seminar: Educational Psychology
  - Humanistic Foundations
    - 5100:600 Philosophies of Education
  - 5100:604 Topical Seminar in the Cultural Foundations of Education
  - 5600/5100:646 Multicultural Counseling
  - Research
    - 5100:640 Techniques of Research
  - Minimum Foundation Hours Required
    - 9

- Required Departmental Courses
  - 5600:631 Elementary/Secondary School Counseling
  - 5600:647 Career Development and Counseling Across the Lifespan
  - 5600:645 Tests and Appraisal in Counseling
  - 5600:610 Counseling Skills for Teachers
  - 5600:663 Developmental Guidance and Emotional Education
  - 5600:695 Field Experience (MUST be taken before concurrently with 663)
  - 5610:540 Developmental Characteristics of Exceptional Individuals
  - 5610:604 Collaboration and Consultation Skills for Special Educators
  - Minimum Department Hours Required
    - 20

- Area of concentration

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

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

Total Area of Concentration Hours Required
- 6

Minimum Semester Hours Required for Graduation
- 35

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 licensure guidelines 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
  - 5600:646 Multicultural Counseling
  - 5100:640 Techniques of Research
  - Subtotal
    - 9

- Required Counseling Core Courses
  - 5600:600 Seminar in Counseling
  - 5600:635 Community Counseling
  - 5600:645 Career Development and Counseling Across the Lifespan
  - 5600:645 Tests and Appraisal in Counseling (prerequisite: 5100:640)
  - 5600:651 Techniques of Counseling
  - 5600:653 Group Counseling (prerequisites 5600:651 and 5600:642)
  - 5600:675 Practicum in Counseling * (prerequisite 5600:653)
  - Subtotal
    - 32

* Students in some counseling programs may choose other options – see advisor.
Required Counseling Department Courses

- Foundations (select one course from each area)
- Clinical Counseling Component
- Minimum Hours Required for Program

**Admission Requirements:**

For those with a teaching license and two years teaching experience:
- 2.75 undergraduate grade point average
- Three letters of reference
- Departmental supplemental application

For those without a teaching license:
- 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. Any changes in the agreed upon program must be approved by the student's advisor.

Minimum Department Hours Required 35

Minimum Total Hours Required for Program 60

* Must sign up with secretary one year in advance.
† Must sign up with Internship Coordinator no later than second week of term preceding internship.
‡ Independent Study, Field Experience, Practicum, and Internship require closed class permission. You must get one from the Department office prior to registering.

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

For those without a teaching license:
- 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. Any changes in the agreed upon program must be approved by the student’s advisor.

Minimum Department Hours Required 35

Minimum Total Hours Required for Program 60

* Must sign up with secretary one year in advance.
† Must sign up with Internship Coordinator no later than second week of term preceding internship.
‡ Independent Study, Field Experience, Practicum, and Internship require closed class permission. You must get one from the Department office prior to registering.

**School Psychology**

(admissions temporarily suspended)

- College requirements:
- Program requirements:

> **Specialized Studies**
> 5600:620 Issues in Sexuality for Counselors 3
> or
> 5600:732 Addiction Counseling: Theory and Assessment 3

> **Clinical Counseling Component**
> 5600:662 Personality and Abnormal Behavior 3
> 5600:714 Objective Personality Evaluation 4
> 5600:664 DSM-IV 3
> 5600:696 Treatment in Clinical Counseling 3
> Also, choose one of the following three courses:
> 5600:621 Counseling Youth at Risk 3
> 5600:622 Play Therapy 3
> 5600:655 Marriage and Family Therapy: Theory and Techniques 3
> 5600:660 Counseling Children 3
> 5600:734 Addiction Counseling II: Treatment Planning and Intervention Strategies 3

Subtotal 12

Subtotal 6

Minimum Foundation Hours Required 9

Minimum Department Hours Required 35

**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
  5600:669 Systems Theory in Family Therapy 3

- Area II: Clinical Practice
  5600:667 Marital Therapy (prerequisites: 5600:665 and 5600:669) 3
  5600:666 Multicultural Counseling (Ed Found) 3
  5600:651 Techniques of Counseling (register for MFC/T section) 3
  5600:653 Group Counseling (prerequisite: 5600:651) 4
  5600:664 DSM 3

- Area III: Individual Development and Family Relations
  5600:648 Individual and Family Development Across the Lifespan (Ed Found) 3
  5600:620 Issues in Sexuality for Counselors 3
  5600:666 Personality and Abnormal Behavior 3

- Area IV: Professional Identity and Ethics
  5600:623 MFC/T Ethics and Professional Identity (take first semester) 3

- Area V: Research
  5100:640 Techniques of Research (Ed Found) 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 3
  5600:647 Career Development and Counseling Across the Lifespan 3

- Clinical Experience Requirements
  5600:665 Field Experience 2
  (Prepracticum one hour taken each semester, the two semesters immediately before Practicum 5600:675)
  5600:675 Practicum in Counseling (register for MFC/T section) 5
  (Prerequisites: 5600:623, 643, 645, 651, 653, 655, 656, 664, 667, 669, 695)
  5600:685 Internship 6
  (Minimum of two semesters immediately following 5600:675; register for MFC/T section)

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.

Students must receive a pass grade on the Master’s Comprehensive Examination

A maximum of six credits of workshop can be used to satisfy degree requirements
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 Practices of Individual Intelligence Testing  4
  5620:640  Counseling Theory and Practice  3
  5620:610  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
  or
  5620:698  Master's Problem  2-4
  or
  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:

- Field Experience (Student Teaching) – 11 credits:
  5200:630  Elementary School Curriculum and Instruction  2
  5620:686/696  Field Experience: Master's  3
  5700:631  Elementary School Administration  3
  or
  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.

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 literacy, 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

- Area of Concentration/Reading – 15 credits:
  5500:622  Children's Literature in the Curriculum  3
  5500:627  Special Topics in Curric & Instr Studies: Teaching Young Adult Literature  3
  5500:522  Content Area Literacy  3
  5500:630  Assessment of Reading Difficulties  3
  5500:524  Teaching Reading to Culturally Diverse Learners  3
  5500:627  Special Topics in Curricular and Instructional Studies  3

- Final Research Requirement:
  5500:696  Master's Project  6
  or
  5500:699  Master's Thesis  6

- Minimum credit hours required: 36

- *Special cohort master's programs may be created to reflect the immediate needs of a cohort group. Such programs will encompass a 30-36 hour requirement.

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 literacy, 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

- Area of Concentration/Reading – 15 credits:
  5500:622  Children's Literature in the Curriculum  3
  5500:627  Special Topics in Curric & Instr Studies: Teaching Young Adult Literature  3
  5500:522  Content Area Literacy  3
  5500:630  Assessment of Reading Difficulties  3
  5500:524  Teaching Reading to Culturally Diverse Learners  3
  5500:627  Special Topics in Curricular and Instructional Studies  3

- Final Research Requirement:
  5500:696  Master's Project  6
  or
  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 (102XX).

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
  5100:602  Comparative and International 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 (Section 001)  3

- Curricular and Instructional Studies – 11 credits:
  5500:617  Licensure Seminar in Curricular and Instructional Studies  3
  5500:630  Field Experience (Section 011)  1
  5500:575  Instructional Technology Applications  3
  5500:618  Advanced Instructional Techniques  3
  5500:695  Field Experience: Master's (Section 021)  1

- Field Experience (Student Teaching) – 11 credits:
  5500:695  Field Experience: Master's (Section 005)  5
  5500:695  Field Experience: Master's (Section 005)  5
  5500:695  Field Experience: Master's (Section 031)  1

- Total Program: 32 credits
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
  - 5100:602 Comparative and International Education
  - 5100:604 Topical Seminar in the Cultural Foundations of Education
  - 5100:620 Psychology of Instruction for Teaching and Learning
  - 5100:624 Seminar: Educational Psychology
  - 5100:640 Techniques of Research

- **Curricular and Instructional – 6 credits**
  - 5500:600 Concepts of Curriculum and Instruction
  - 5500:xxx Seminar in Trends and Issues in Curriculum and Instruction

- **Area of Concentration – 15 credits** (within curriculum and instruction as approved by the advisor)
  - 5500:696 Master's Project
  - 5500:699 Master's Thesis

- A comprehensive exam is required

- Minimum credit hours required: 36

*Special cohort master's programs may be created to reflect the immediate needs of a cohort group. Such programs will encompass a 30-36 hour requirement.*

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

- **Curricular and Instructional Studies – 6 credits:**
  - 5500:600 Concepts of Curriculum and Instruction
  - 5500:625 Contemporary Issues in Literacy Instruction and Phonics

- **Area of Concentration/Reading – 15 credits:**
  - 5500:622 Children's Literature in the Curriculum
  - 5500:627 Special Topics in Curric & Instr Studies: Teaching Young Adult Literature
  - 5500:628 Literacy Assessment Practicum
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:630 Advanced Study and Research in Reading Instruction
  - 5500:640 Techniques for Teaching English as a Second Language

- **Final Research Requirement:**
  - 5500:780 Research Action
  - 5500:696 Master's Project
  - 5500:699 Master's Thesis

- Minimum credit hours required: 36

Students completing the Master of Arts degree are required to complete the Master’s Comprehensive Examination.

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 their 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
  - 5100:640 Techniques of Research

- **Special Education core: (15 credits)**
  - 5610:604 Collaboration and Consultation Skills for Special Educators
  - 5610:605 Inclusion Models and Strategies
  - 5610:611 Seminar: Legal Issues in Special Education
  - 5610:612 Seminar: Social/Ethical Issues in Special Education
  - 5610:698 Master’s Problem

A comprehensive examination is required.

- **Option I: Master’s in Special Education (6 credits)**
  - 5610:601 Seminar in Curriculum Planning
  - 5610:602 Supervision in Special Education

- 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
  - 7700:540 Augmentative Communication

- 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
  - 5500:631 Advanced Behavioral Strategies for the Educator

- Minimum Credit Hours Required: 30

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

*(For those without a teaching credential or 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 Science
- Earth Science
- Life and Earth Science
- Life Science and Chemistry
- Life Science and Physics
- Chemistry
- Physicis
- Chemistry and Physics
- Earth Science
- 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 Vocation (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 Services, Zook Hall 207, call (330) 972-6970 or visit the following for more information: http://www.uakron.edu/colleges/eduCDOE/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. 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 Pathways 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 Standards, and principles developed by the Interstate New Teacher Assessment and Support Consortium (INTASC). For more complete information about the Program, please consult the College of Education Office of Student Services at (330) 972-6970.

Program

• Foundation Courses (10 credits):
  All are required unless waived at the time of admission. Foundation courses may not be used as option or elective courses.
  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 (taken in conjunction with 5100:620) 1

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Social Studies License

• 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
  5500:695 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 1

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

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

• 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 (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

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

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
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
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 - Modern Language (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 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
5500:693 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
5500:555 Literacy for Multilingual 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
5500:694 Field Experience: Classroom Instruction (section 002) 2
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
5500:555 Literacy for Multilingual 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
5500:694 Field Experience: Classroom Instruction (section 002) 2

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

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

Foundation Courses (10 credits):
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
5500:555 Literacy for Multilingual 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 (15):
7100:593 Advanced Seminar in Art Education 3
7100:594 Selected Topics: Art Education 3
7100:5xx 500-level in Studio Art 6
7100:502 Museology 3

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

A comprehensive examination is required.
Minimum credits required for degree: 54

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
5500:555 Literacy for Multilingual Licensure 3
7400:511 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
7400:588 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
5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
5500:693 Field Experience: Master’s with Licensure (section 011) 1
5500:555 Literacy for Multilingual 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 Multi-Age (P-12) Education: Special Education: Mild/Moderate Intervention Specialist Licensure

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
5500:555 Literacy for Multilingual 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
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
5500:555 Literacy for Multilingual Licensure 3
5500:xxx Elective in curriculum or teaching practices approved by advisor 2

Minimum credits required for degree: 45
Area of Concentration (26 credits):

5610:540 Individuals with Exceptionalities: Educational and Societal Issues 3
5610:547 Developmental Characteristics of Mild/Moderate Educational Needs 4
5610:567 Management Strategies 3
5610:604 Collaboration and Consultation 3
5610:653 Assessment in Special Education 3
5610:652 Special Education Programming: Secondary/Transition 3
5610:651 Special Education Programming: Mild/Moderate I 3
5610:557 Special Education Programming: Mild/Moderate II

Field Experience: Student Teaching and Practicum (11 credits) or Master’s Project and Practicum (6 credits):

5610:695 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 id: 42-45

Option in Special Education: Moderate/Intensive Intervention Specialist Licensure

Foundation Courses (10 credits)
Curricular and Instructional Studies (3 credits):

5500:575 Instructional Technology Applications 3

Area of Concentration (27 credits):

5610:540 Individuals with Exceptionalities: Educational and Societal Issues 3
5610:547 Developmental Characteristics of Moderate/Intensive Educational Needs 4
5610:567 Management Strategies 3
5610:604 Collaboration and Consultation 3
5610:653 Assessment in Special Education 3
5610:652 Special Education Programming: Secondary/Transition 3
5610:653 Special Education Programming: Moderate/Intensive I 4
5610:554 Special Education Programming: Moderate/Intensive II 4

Field Experience: Student Teaching and Practicum (11 credits) or Master’s Project and Practicum (6 credits):

5610:695 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 id: 43-45

Option in Special Education: Early Childhood Intervention Specialist Licensure

Foundation Courses (10 credits)
Curricular and Instructional Studies (3 credits):

5500:575 Instructional Technology Applications 3

Area of Concentration (27 credits):

5610:540 Individuals with Exceptionalities: Educational and Societal Issues 3
5610:547 Developmental Characteristics of Moderate/Intensive Educational Needs 4
5610:567 Management Strategies 3
5610:604 Collaboration and Consultation 3
5610:656 Assessment and Evaluation in Early Childhood Special Education 3
5610:550 Special Education Programming: Early Childhood 3
5610:553 Special Education Programming: Moderate/Intensive I 4
5610:561 Special Education Programming: Early Childhood Moderate/Intensive 3

Field Experience: Student Teaching and Practicum (11 credits) or Master’s Project and Practicum (6 credits):

5610:695 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 id: 42-45

Student Portfolio

Students admitted to their College of Education program and beginning their professional education coursework Fall 2005 and thereafter will complete a student portfolio. Specific portfolio requirements are often completed as part of a course, clinical experience, or field experience, and must be judged acceptable by the instructor before credit is awarded for the experience connected to that particular portfolio entry. The portfolio must also be submitted for acceptance before student teaching and again prior to program completion.

Clinical and Field-Based Experiences

All teacher education candidates, including those in the master’s with licensure programs, are required to participate satisfactorily in clinical and field-based experiences prior to recommendation for licensure. These integrated and developmental clinical and field-based experiences are designed to provide teacher education students with opportunities to apply theory and skills related to their areas of licensure. Field-based experiences are planned in diverse settings and provide comprehensive early and ongoing field-based opportunities in which candidates may observe, assist, tutor, instruct, and/or conduct research. Field experiences may occur in off-campus settings such as schools, community centers, or homeless shelters.

Student teaching is a full-time experience that provides candidates with an intensive and extensive culminating activity in an approved public or private school for either eleven weeks (adolescent to young adult) or sixteen weeks (intervention specialist, multi-age, or vocational family and consumer science licensure). Candidates are immersed in the learning community and are provided opportunities to develop and demonstrate competence in the professional roles for which they are preparing. Placements are made in appropriate sites at the discretion of the Extended Educational Experiences Office in consultation with program faculty. All 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.

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
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 School Culture and Governance 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 Psychology of Instruction and Teaching 3
or
5100:624 Seminar: Educational Psychology 3
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 two components: the Principalship master’s degree and those post-master’s courses listed below.

**Post-Master’s Licensure Courses – 12 credits:**
- 5170:620 Psychology of Instruction for Teaching and Learning 3
- 5170:624 Seminar: Educational Psychology 3
- 5170:636 Topical Seminar in Educational Technology 3
- 5170:640 Techniques of Research 3

To obtain a license to practice the work of a school principal through the College of Education, the candidate will have a total of 42 post-baccalaureate hours, a master’s degree, completion of 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
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 School Culture and Governance 3
  - 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 Superintendentcy 3
  - 5170:795/6 Internship* 4
  - 5100:801 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
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 School Culture and Governance 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration – 21 credits:**
  - 5170:601 Organizational Leadership 3
  - 5170:603 Management of Human Resources 3
  - 5170:604 School-Community Relations 3
  - 5170:606 Evaluation in Educational Organizations 3

- **Post-Master’s Requirements – 14 credits:**
  - 5170:704 Advanced Organizational Leadership 3
  - 5170:705 Decision Making in Educational Administration 3
  - 5170:707 The Superintendentcy 3
  - 5170:795/6 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: Instructional Services**

(Curriculum, Instruction, and Professional Development)

(Admissions to Instructional Services currently suspended)
- **Foundation Studies – 12 credits:**
  - 5100:600 Philosophies of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 School Culture and Governance 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration – 21 credits:**
  - 5170:601 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 Superintendentcy 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
  - 5170:795/6 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: Pupil Personnel Administration**

(Admissions to Pupil Personnel Administration currently suspended)
- **Foundation Studies – 12 credits:**
  - 5100:600 Philosophies of Education 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 School Culture and Governance 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:636 Topical Seminar in Educational Technology 3
  - 5100:640 Techniques of Research 3

- **Educational Administration – 21 credits:**
  - 5170:601 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 Superintendentcy 3

- **Post-Master’s Requirements – 16 credits:**
  - 5600:631 Elementary/Secondary School Counseling 3
  - 5600:633 Group Counseling 3
  - 5600:659 Organization and Administration of Guidance Services 3
  - 5170:704 Advanced Organizational Leadership 3
  - 5170:795/6 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
  - 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
Professional Education

This Master’s degree program area is designed for either the student interested in improving present educational skills or specialists who wish to make a major contribution to the field. The graduate program 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.

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 Licensure programs. Requirements for the Superintendent Licensure are listed below.

**Foundation Studies (9 credits)**
5170.704 Advanced Organizational Leadership 3
5170.707 The Superintendentship 3
5170.732 Public and Media Relations in Educational Organizations 3
5170.795/796 Superintendent Internship 3 credits each

**Required Courses (15 credits)**
5190:695 Field Experience: Master’s 3
5190:696 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.

**Post-Master’s Requirements – 16 credits:**
5170.704 Advanced Organizational Leadership 3
5170.707 The Superintendentship 3
5170.732 Public and Media Relations in Educational Organizations 3
5170.795/796 Superintendent Internship 3 credits each

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 Principalship Licensure programs. Requirements for the Superintendent Licensure are listed below.

**Foundation courses (9 credits):**
5100:620 Psychology of Instruction for Teaching and Learning 3
or
5100:646 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
5190:526 Student Services and Higher Education 3
5190:527 The American College Student 3
5190:530 Higher Education Curriculum and Program Planning 3
5190:640 Advanced Administrative Colloquium in Higher Education 3
5190:641 Internship in Higher Education 3
5190:642 Internship in Higher Education Seminar 1
5190:646 Finance and Higher Education 3
5190:648 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)

The cognitive theory and research underlying 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.

- Program Requirements for the specialization selected above (minimum of 15 credits)
- Outside Department (minimum of six credits except for Instructional Technology option)
- Master’s Comprehensive Examination (electronic portfolio for Instructional Technology)
- Election of master’s thesis (5100:698), or master’s project (5100:699), or an additional six semester credits of coursework. Students choosing to do a master’s thesis or master’s project require 30 semester credits to graduate. Students choosing to do only coursework require 36 semester credits to graduate.

Instructional Technology Option (30 credits)

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.

This 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 credits)**
5100:600 Philosophies of Education or
5100:604 Topical Seminar in the Cultural Foundations of Education or
5100:637 Philosophies of Educational Technology or
5100:620 Psychology of Instruction for Teaching and Learning or
5100:624 Seminar: Educational Psychology or
5100:640 Techniques of Research or

**Required Courses (15 credits)**
5100:614 Planning for Technology 3
5100:631 Instructional Design 3
5100:633 Hypermedia 3
5100:638 Integrating and Implementing Technology 3
5100:695 Field Experience: Master’s 3

**Electives (choose 6 credits)**
5100:590, 591 Workshop: Instructional Technology 3
5100:632 Web-Based Learning Systems 3
5100:639 Strategies for Online Learning 3
5100:696 Master’s Technology Project 3

Graduate K-12 Computer 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.

Educational Psychology Option (30-36 credits) (admissions suspended)

The cognitive theory and research underlying 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 or
5100:604 Topical Seminar in the Cultural Foundations of Education or
5100:620 Psychology of Instruction for Teaching and Learning or
5100:624 Seminar: Educational Psychology or
5100:640 Techniques of Research or

**Electives (15-21 hours)**
5100:624 Seminar: Educational Psychology or
5100:604  Topical Seminar in the Cultural Foundations of Education 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
5100:723  Teacher Behavior and Instruction 3
5100:698  Master’s Problem 3
5100:699  Master’s Thesis 4-6
• Outside Department Requirements (6 hours)
5610:540  Developmental Characteristics of Exceptional Individuals 3
5500:780  Seminar in Curricular and Instructional Studies (Cooperative Learning) 3

Social/Philosophical Foundations of Education Option (30-36 credits)

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 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.

• 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)
5100:602  Comparative and International Education 3
5100:604  Topical Seminar in the Cultural Foundations of Education 3
5100:637  Philosophies of Educational Technology 3
5100:701  History of Education in American Society 3
5100:703  Seminar: History and Philosophy of Higher Education 3
5100:705  Seminar: Social-Philosophical Foundations of Education 3
5100:697  Independent Study: Master’s 3
5100:698  Master’s Problem 3
5100:699  Master’s Thesis 4-6

Research Methodology and Evaluation Option (30 credits)

(Admissions to Research Methodology and Evaluation currently suspended)

The graduate program in Educational Foundations emphasizing Research Methodology and Evaluation prepares students for careers in research methodology and evaluation. Employment is typically available in government, military, industry and education. These career positions may involve teaching, conducting evaluative research, and sociology of education. Employment is typically available in government, military, industry and education. These career positions may involve teaching, conducting evaluative research, and evaluation. Students may be either encouraged or required to study with faculty in other departments or institutions to develop interdisciplinary programs and perspectives.

• 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 hours)
5100:642  Topical Seminar in Measurement and Evaluation 3
5100:695  Field Experience: Master’s 4-6
5100:740  Research Design 3
5100:741  Data Collection Methods 3
5100:742  Statistics in Education 3
5100:743  Advanced Educational Statistics 3
5100:798  Research Projects in Special Areas: Advanced Psychometric Techniques and Measurement 3
5100:801* Research Seminar: Multiple Regression, Model Building Data Analysis Procedures 3
5100:801* Research Seminar: Path Analysis, Multivariate Statistical Techniques 3
5100:801* Research Seminar: Qualitative 3
5100:801* Research Seminar: SAS or SPSS 3
5100:801* Research Seminar: Case Studies 3
5100:697  Independent Study 1-4

• Outside Department Requirements (6 hours)
5500:696  Master’s Project 6
or
5500:699  Master’s Thesis 6

• 36 total hours are required.
• A comprehensive exam is required.

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. All courses are also available fully online.

Admission Requirements

• Full Admission:
  2.75 grade point average on a completed Bachelor’s degree (or 3.0 for last 60 credit hours)
• Provisional Admission:
  2.5 (or 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 for those with a B.S. in Technical Education

• Foundation Studies – 9 credits:
5100:604  Topical Seminar in Cultural Foundations 3
5100:640  Techniques of Research 3
5400:580  Diverse Postsecondary Learners 3

• Professional Technical Education Courses – 21 credits:
5100:639  Strategies for Online Learning 3
5400:600  The Two-Year College 3
5400:605  Advanced System Design: Needs Assessment and Evaluation 3
5400:620  Postsecondary Teacher Leadership 3
5400:660  Postsecondary Distance Learning 3
5400:698  Master’s Problem 6
5400:699  Master’s Thesis 6
Total: 30 credits

Program for those without a B.S. in Technical Education

• Foundation Studies – 9 credits:
5100:640  Techniques of Research 3
5400:500  The Postsecondary Learner 3
5400:580  Diverse Postsecondary Learners 3
or
5100:710  Adult Learning, Development, and Motivation 3

• Professional Technical Education Courses – 27 credits:
5100:639  Strategies for Online Learning 3
5400:505  Workplace Education for Youth and Adults 3
or
5400:515  Training in Business and Industry 3
or
5400:600  The Two-Year College 3
5400:520  Postsecondary Instructional Technology 3
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
5400:675  Advanced Instructional Applications Seminar 3
5400:690  Internship in Postsecondary Education 3
Total: 36 credits

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:
5100:640  Techniques of Research 3

* Note: Doctoral Research Seminar may be repeated for up to 9 semester hours.
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Remaining six (6) credits to be chosen, with approval of advisor, from 5100:5xx or 5100:6xx course offerings or 5550:606 Statistics: Qualitative and Quantitative Methods.

• Required courses:
  5560:550 Application of Outdoor Education to the School Curriculum 4
  5560:552 Resources and Resource Management for the Teaching of Outdoor Education 4
  5560:556 Outdoor Pursuits 4
  or
  5560:605 Outdoor Education: Special Topics 2-4
  5560:600 Outdoor Education: Rural Influences 3
  5560:695 Field Experience 2-6
  (at least 2 credits if only option selected) or
  5560:698 Master’s Problem 2-4
  or
  5560:699 Master’s Thesis 4-6

With the approval of the advisor, the student will select additional courses and/or workshops related to the graduate program.

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:
  5100:600 Philosophies of Education 3
  or
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  or
  5100:620 Psychology of Instruction for Teaching and Learning 3
  or
  5100:624 Seminar: Educational Psychology 3
  or
  5100:640 Techniques of Research 3
  Subtotal 6

• Required Department Courses:
  5550:536 Foundations and Elements of Adapted Physical Education 3
  5550:601 Sports Administration and Supervision 3
  5550:602 Motor Behavior Applied to Sports 3
  or
  5550:604 Current Issues in Physical Education 3
  5550:603 Tactics and Strategies in the Science of Coaching 3
  5550:605 Physiology of Muscular Activity and Exercise 3
  5550:606 Statistics: Qualitative and Quantitative Methods 3
  5550:609 Motivational Aspects of Physical Activity 3
  5570:521 Comprehensive School Health 4
  5550:685 Field Experience: Master’s 2 (minimum) or
  5550:698 Master’s Problem 2 (minimum)
  or
  5550:699 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.

• Required Foundation Courses (6 credits):
  5100:620 Psychology of Instruction for Teaching and Learning 3
  or
  5100:624 Seminar: Educational Psychology 3
  or
  5100:640 Techniques of Research 3
  Subtotal 6

• Required Department Courses (21-24 credits):
  5550:500 Musculoskeletal Anatomy I 3
  or
  5550:600 Biomechanics Applied to Sports and Physical Activity 4
  5550:518 Cardiorespiratory Function 3
  or
  5550:501 Musculoskeletal Anatomy II 3
  3100:565 Advanced Cardiovascular Physiology 3
  5550:605 Physiology of Muscular Activity and Exercise 3
  5550:606 Statistics: Qualitative and Quantitative Methods 3
  5550:620 Laboratory Instrumentation Techniques in Exercise Physiology 3
  5550:526 Nutrition in Sports 3
  or
  5550:695 Field Experience: Master’s 2 (minimum)
  or
  5550:698 Master’s Problem 2 (minimum)
  or
  5550:699 Master’s Thesis 2 (minimum)

• Required Clinical Experience (2 credits minimum):
  5550:696 Field Experience: Master’s or
  5550:698 Master’s Problem or
  5550:699 Master’s Thesis

• Electives: Select at least one (1) course from among the following and have advisor approval.
  5100:520 Introduction to Instructional Computing 3
  5100:741 Statistics in Education 3
  5100:743 Advanced Education Statistics 3
  5550:601 Sports Administration and Supervision 3
  5550:609 Motivational Aspects of Physical Activity 3
  5550:610 Introduction to Sports Sociology 3
  5550:522 Sports Planning and Promotion 3
  5550:524 Sports Leadership 3
  5550:538 Cardiac Rehab Principles 3
  5550:540 Injury Management for Teachers and Coaches 2
  5550:562 Legal Aspects of Physical Activity 2
  5550:680 Special Topics in Physical Education 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:
  5100:620 Psychology of Instruction for Teaching and Learning 3
  or
  5550:604 Current Issues in Physical Education 3
  and
  5100:640 Techniques of Research 3
  Subtotal 6

• Required Courses:
  5550:540 Injury Management for Teachers and Coaches 2
  or
  5550:541 Advanced Athletic Injury Management: Upper Extremity 4
  5550:553 Principles of Coaching 3
  5550:562 Legal/Ethical Issues in Physical and Leisure Activity 2
  5550:601 Sports Administration and Supervision 3
  5550:602 Motor Behavior Applied to Sports 3
  5550:603 Tactics and Strategies in the Science of Coaching and 3
  5550:605 Physiology of Muscular Activity and Exercise 3
  5550:609 Motivational Aspects of Physical Activity 3
  7400:587 Sports Nutrition 3
  Subtotal 25-27

• At least two (2) credits from among the following:
  5550:695 Field Experience: Master’s or
  5550:698 Master’s Problem or
  5550:699 Master’s Thesis 2 (minimum)

• Electives: The following courses are relevant to this degree. The student may select additional courses and/or workshops related to the graduate program:
  5550:590 Workshop (e.g., Issues of Student Athletes) 1-5
  5550:606 Statistics: Qualitative and Quantitative Methods 3
  5550:680 Special Topics (e.g., Coaching Youth Sports) 1-5
  5570:521 Comprehensive School Health 4
  Total Program 35

School Nurse License Program
(Available to current students only)

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5570:520</td>
<td>Community Health</td>
<td>2</td>
</tr>
<tr>
<td>5570:621</td>
<td>Comprehensive School Health</td>
<td>4</td>
</tr>
<tr>
<td>5570:523</td>
<td>Methods and Materials of Teaching Health Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Subtotal: 12

Applicant must also complete 11-16 graduate credits of College of Nursing courses listed below:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:651</td>
<td>Advanced Pediatric/Adolescent Assessment</td>
<td>3</td>
</tr>
<tr>
<td>8200:613</td>
<td>Nursing Inquiry I</td>
<td>3</td>
</tr>
<tr>
<td>8200:553</td>
<td>School Nurse Practicum I</td>
<td>5</td>
</tr>
<tr>
<td>8200:554</td>
<td>School Nurse Practicum II (required of all school nursing students)</td>
<td>5</td>
</tr>
</tbody>
</table>

Subtotal: 11-16

Optional if continuing on to a master’s degree in the College of Nursing:*

<table>
<thead>
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<td>5570:523</td>
<td>Methods and Materials of Teaching Health Education</td>
<td>3</td>
</tr>
<tr>
<td>5570:524</td>
<td>Elective within College of Education</td>
<td>3</td>
</tr>
<tr>
<td>(upon approval of College of Education school nurse licensing advisor)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 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 principle graduate program of UA’s College of Business Administration. The objective of the MBA program is to provide a diverse group of men and women with the skills, leadership, vision, and innovative spirit needed to rise to positions of organizational leadership in a global business environment characterized by intense competition and rapid rates of technological change. Graduates of UA’s MBA program should possess:

- The analytical and conceptual abilities needed to identify and cope successfully with ambiguous and unstructured business problems;
- A solid grounding in the basic business functions, with an emphasis on the integration of those functions and an understanding of how those functions are linked in the formulation and execution of business strategy;
- A strong ethical perspective, an appreciation of cultural diversity, and an ability to communicate in an effective, persuasive manner;
- An understanding of the legal, political, regulatory, economic and technological environment; and,
- An awareness of the global economy in which business operates and an understanding of the forces that shape competitiveness in that economy.

In order to accomplish these goals, the graduate faculty of the College of Business Administration commits itself to providing a quality graduate business experience. That experience will have a strong professional focus, characterized by 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.

**M A S T E R ’ S D E G R E E**

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 1963 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 busi-
ness 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 pro-
gress in the J.D./M.Taxation program). These credits must be pre-
A domestic baccalaureate degree from a regionally accredited college or uni-
and have a total index score of 1,000 or more points based upon the over-
The College of Business Administration will permit nine credits of comparable grad-
School credits into the J.D./M.Taxation program). These credits must be pre-
approved by the director of graduate programs in the C.B.A. This nine credit pol-
6500:600 Knowledge Management and Business Intelligence 3
6500:655 Government and Business 3
6500:630 Management and Organizational Behavior 3
6500:601 Quantitative Decision Making 3
6500:602 Computer Techniques for Management 3
6600:600 Marketing Concepts 3
8000:600 Return on Investment 3
8000:610 Strategic Financial Decision Making 3
8000:615 Managerial Finance 3
8000:630 Managerial Accounting 3
8000:650 Financial Accounting 3
Behavioral Core (12 credits):
Foundation Core (8 credits):
8600:604 Entrepreneurship 1
8600:641 Knowledge Management and Business Intelligence 3
8600:635 E-Business Marketing Strategies and Tactics 3
8600:638 Information Systems 1
Committee (GAC). The GAC meets monthly and the appli-
cant 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 Com-
members. The committee will consider the following in making decisions: the difficulty of the applicant’s undergraduate program; the length of time and activi-
ties since graduation; and the percentile ranking on the GMAT. For example, stu-
dents 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 require-
ments 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 appli-
cant should register for it sufficiently in advance to the filing of the graduate appli-
cation, so evaluation for admission will not be delayed. GMAT registration bulletins can be obtained from the Graduate Programs in Business Office or the Educational Testing Service, Box 966-R, Princeton, NJ 08540. Those who have taken the GMAT 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 appli-
cant will be informed in writing of the GAC’s decision within one week of the meet-

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 grad@uakron.edu. Further information may be found at the Col-
lege of Business Administration website: http://www.uakron.edu/cbagrant.

Transfer Policy
The College of Business Administration will permit nine credits of comparable grad-
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 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:
6600:608 Entrepreneurship 3
6600:644 Knowledge Management and Business Intelligence 3
6600:635 E-Business Marketing Strategies and Tactics 3

Second Degree
For a student who has already obtained one master’s degree in business, it is pos-
sible 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 concentra-
tion of study in one of the 13 following areas: accounting, electronic business, entre-
preneurship, finance, global sales management, health care management, international business, international finance, management, management of tech-
ology and innovation, strategic marketing, or supply chain management. The pro-
gram 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 infor-
mation 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
  6400:605 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
  8000:610 Process Analysis and Cost Management 3
  8400:615 Strategic Financial Decision Making 3
  6500:670 Management of Operations 3
  6800:620 Strategic Marketing Management 3
  6700:696 Special Topics in Professional Development: Leadership 1
  6800:605 International Business Environments 3
  6500:696 Business Strategy and Policy: Domestic and International 3

• Functional Core (16 credits):
  8600:608 Entrepreneurship 1
  8600:644 Knowledge Management and Business Intelligence 3
  8600:635 E-Business Marketing Strategies and Tactics 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.

• Free Electives (3 credits):
  The student must 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)
  8600:696 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 60

If the Foundation Core Courses are all waived, the program is 34 credits in length.
• Choose 3 credits from the following:

6200:658 Enterprise Risk Assessment and Assurance 3
6500:665 Management of Technology 3
6600:645 Innovative Marketing Strategies 3

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.

• Required:

6300:640 Financing the Entrepreneurial Venture 3
6300:670 Managing Entrepreneurial Growth 3
6500:608 Entrepreneurship 3
6500:663 Data Analysis for Managers 3

Concentration in Direct Integrated Marketing

• Required (9 credits)

6800:615 Database Marketing 3
6800:630 Customer Relationship Management 3
6800:655 Integrated Marketing Communications 3

• Choose three credits from the following:

6800:640 Business Research Methods 3
6800:646 Innovative Marketing Strategies 3

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 (9 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 Health Care Management

• Required:

6500:580 Introduction to Health Care Management 3
6800:663 Data Analysis for Managers 3
6800:683 Health Services Systems Management 3

• Choose three credits from the following:

6500:582 Health Services Operations Management 3
6500:586 Special Topics in Health Services Administration 1-3
6500:686 Health Services Research Project 3
6500:688 Independent Study in Health Services Administration 1-3
3200:680 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
3250:540 Special Topics: Economics (Medical) 3
3850:615 Epidemiologic Methods in Health Research 3
3850:656 Sociology of Health Care 3
3890:622 Urban Planning and Health Care 3
4800:630 Biomedical Computing 3
8200:632 Fiscal Management in Nursing Administration 3
or three graduate credits approved by the Director.

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
6600:663 Data Analysis for Managers 3
6600:640 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 1-3
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 Comparative Economic Systems 3
3250:560 Economics of Developing Countries 3
3250:670 International Monetary Economics 3
3250:671 International Trade 3
3350:550 Development Planning 3
3350:633 Comparative Planning 3
3400:516 Modern India 3
3400:573 Latin America: The Twentieth Century 3
3400:575 Mexico 3
3700:505 Politics in the Middle East 3
3700:512 Global Environment Politics 3

*Cross-cultural courses may be used for free elective credits.

Concentration in International Business for International Executives

• Required (choose one of the following courses):

6200:664 Research and Quantitative Methods in Accounting 3
6400:650 Techniques of Financial Modeling 3
6500:662 Applied Operations Research 3
6500:663 Data Analysis for Managers 3
6600:640 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 International Operations 3
6500:659 International Human Resource Management 3
6500:663 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 Comparative Economic Systems 3
3250:560 Economics of Developing Countries 3
3250:670 International Monetary Economics 3
3250:671 International Trade 3
3350:550 Development Planning 3
3350:633 Comparative Planning 3
3400:516 Modern India 3
3400:573 Latin America: The Twentieth Century 3
3400:575 Mexico 3
3700:505 Politics in the Middle East 3
3700:512 Global Environment Politics 3

*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 3
6400:691 International Markets and Investments 3
6400:638 International Banking 3

• Choose three credits from the following:

6400:631 Financial Markets and Institutions 3
6400:645 Investment Analysis 3
6400:650 Techniques of Financial Modeling 3
6400:678 Capital Budgeting 3
6400:690 Selected Topics in Finance 3
6400:697 Independent Study in Finance 3
6400:698 Independent Study: Business Law 3

or any cross-cultural course approved by Graduate Program Director

Concentration in Management

• Required:

6500:663 Data Analysis for Managers 3

• 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.
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 accounting 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 with a non-accounting undergraduate business degree from a regionally accredited institution or international equivalent or individuals with a non-business degree from a regionally accredited institution or international equivalent 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. Documented guidance on sequencing MSA courses available through the School of Accountancy.

Pre-MSA Foundation Courses (12 credits):
All foundation courses must be taken prior to courses in the MSA program. An exception to this policy may be made by the chair of the School of Accountancy for students who have received waivers from foundation courses.

600:603 Accounting Decision Support Systems 3
600:602 Managerial Finance 3
600:624 Legal Aspects of Business Transactions 3
600:601 Quantitative Decision Making 3

Pre-MSA Financial Reporting Courses (12 credits):
All Pre-MSA Financial Reporting Courses with the exception of 6200:540 (Auditing) must be completed prior to taking courses in the MSA program.

600:621 Corporate Accounting and Financial Reporting I 3
600:611 or Intermediate Accounting I or equivalent 3
600:622 Corporate Accounting and Financial Reporting II 3
600:622 or Intermediate Accounting II or equivalent 3
600:610 Process Analysis and Cost Management 3
600:621 or Process Analysis and Cost Management 3
600:6301 or Cost Management and ERP or equivalent 3
600:540 Auditing 3

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. Students completing the MSA AIS option must have a minimum of 12 credit hours of accounting information systems or management information systems classes.

Group A: Accounting and Assurance Core (12 - 15 credits):
6200:615 or ERP and Financial Data Communications 3
6200:637 or Contemporary Accounting Issues 3
6200:658 or Enterprise Risk Assessment and Assurance 3
6200:530 or Accounting and Assurance Project (capstone course) 3
6200:520 or Advanced Accounting* 3

*All courses in this group are required, except for 6200:520, which is not required for students in the AIS option. Students who have completed a similar advanced accounting course at the undergraduate level must take a different course.

Group B: Taxation Core (3 - 6 credits):
6200:627 or Survey of Federal Taxation 3
6200:531 or Taxation II* 3
6200:658 or Enterprise Risk Assessment and Assurance 3
6200:531 or Corporate Taxation I 3

*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 but no more than two courses in the taxation core.

Group C: Accounting Electives (0 - 6 credits):
6200:554 or Information Systems Security 3
6200:570 or Government and Institutional Accounting 3
6200:659 or Assurance Services and Data Mining 3
6200:631 or Corporate Taxation I 3

These electives are open only to students who have not previously completed similar courses.

Group D: Information Systems Electives (0 - 12 credits):
6500:643 or Analysis and Design of Business Systems 3
6500:641 or Business Database Systems 3
6500:648 or Management of Telecommunications 3
6500:678 or Project Management 3

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 or Financial Markets and Institutions 3
6400:645 or Investment Analysis 3
6400:674 or Strategic Financial Decision Making 3
6400:681 or Multinational Corporate Finance 3
6400:691 or International Markets and Investments 3

The Chair of the School of Accountancy may approve or substitute other relevant finance courses not listed in Group E above.

Accelerated BS/MS Accounting
The Accelerated BS/MS Accounting (BS/MSA) program allows honors students and other outstanding accounting majors to complete the 150 credits of pre-CPA certification education required by the Accountancy Board of the State of Ohio and earn both a bachelor’s and masters degree in accounting. Honors and other outstanding students will be targeted as soon as they identify accounting as a major and will be officially accepted into the accelerated program by the start of their senior year.
To receive official acceptance into the program, students must satisfy the following requirements:

- Provide two letters of recommendation from CBA faculty
- Earn a 3.0 or higher GPA in accounting courses, in business courses, and in all University of Akron courses
- Apply to be and be accepted into Graduate School by the start of their senior year

BS/MSA students will be monitored closely and be given professional accounting advice through the School of Accountancy. Students must earn and maintain a 3.0 or better GPA in business, accounting, and overall to stay in the program. Students who are not able to do so will complete the regular bachelor’s program instead of the accelerated BS/MSA program.

All students in the program will complete 30 credits of graduate courses to fulfill the requirements for the masters degree. They will complete nine credits of 500-level graduate courses during their fourth (senior) year and the remaining 21 credits of 400-level graduate courses during their fifth year. The nine credits of 500-level graduate courses will count toward both their graduate and undergraduate degree programs. A total of 150 credits of graduate and undergraduate courses are required to complete the accelerated BS/MSA program.

BS/MSA students may be eligible for graduate assistantships during their fourth and fifth years of the program only if they are registered for at least nine graduate credits in each semester. Honors students may be eligible for funding from the Honors College during the fourth year and receive a graduate assistantship during the fifth year.

BS/MSA students must complete a total of 30 graduate credits from the following groups of courses listed below. No more than nine credits can be 500-level (6200:5xx) courses. At least 12 credits must be 600-level accounting (6200:6xx) courses.

**Group A:** Accounting and Assurance Core (12 - 15 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:615</td>
<td>ERP and Financial Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>6200:637</td>
<td>Contemporary Accounting Issues</td>
<td>3</td>
</tr>
<tr>
<td>6200:650</td>
<td>Enterprise Risk Assessment and Assurance</td>
<td>3</td>
</tr>
<tr>
<td>6200:660</td>
<td>Accounting and Assurance Project (capstone course)</td>
<td>3</td>
</tr>
<tr>
<td>6200:670</td>
<td>Advanced Accounting I</td>
<td>3</td>
</tr>
</tbody>
</table>

*All courses in this group are required except for 6200:520, which is not required for students in the AIS option. Students who have completed a similar advanced accounting course at the undergraduate level must take a different course.*

**Group B:** Taxation Core (3 - 6 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:627</td>
<td>Survey of Federal Taxation</td>
<td>3</td>
</tr>
<tr>
<td>6200:531</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>6200:628</td>
<td>Tax Research</td>
<td>3</td>
</tr>
<tr>
<td>6200:631</td>
<td>Corporate Taxation I</td>
<td>3</td>
</tr>
</tbody>
</table>

*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 but no more than two courses in the taxation core.*

**Group C:** Accounting Electives (0 - 6 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:654</td>
<td>Information Systems Security</td>
<td>3</td>
</tr>
<tr>
<td>6200:570</td>
<td>Government and Institutional Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:659</td>
<td>Assurance Services and Data Mining</td>
<td>3</td>
</tr>
</tbody>
</table>

These electives are open only to students who have not previously completed similar courses.

**Group D:** Information Systems Electives (0 - 9 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:643</td>
<td>Analysis and Design of Business Systems</td>
<td>3</td>
</tr>
<tr>
<td>6500:644</td>
<td>Management of Telecommunications</td>
<td>3</td>
</tr>
<tr>
<td>6500:678</td>
<td>Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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 CI).

**Group E:** Finance Electives (0 - 9 credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6400:631</td>
<td>Financial Markets and Institutions</td>
<td>3</td>
</tr>
<tr>
<td>6400:646</td>
<td>Investment Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6400:674</td>
<td>Strategic Financial Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>6400:678</td>
<td>Capital Budgeting</td>
<td>3</td>
</tr>
<tr>
<td>6400:691</td>
<td>Multinational Corporate Finance</td>
<td>3</td>
</tr>
<tr>
<td>6400:691</td>
<td>International Markets and Investments</td>
<td>3</td>
</tr>
</tbody>
</table>

The Chair of the School of Accountancy may approve or substitute other relevant finance courses not listed in Group E above.

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**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).

Students who have at least two years of work experience and have an accounting certificate (i.e., CPA, CMA, CIA, etc.) or have successfully passed the bar exam do not need to take the GMAT exam to be admitted to the program. All other students must earn a satisfactory score on the GMAT (LSAT for law students) prior to being admitted to the program.

Individuals in categories 3 and 5 must complete an 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
  - Total Credits of Required Courses
  - Approved Taxation Electives
  - Total Credits Required for MTax

- 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
  - 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. 6200:625 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 advanced 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 33 credits of coursework consists of 12 credits of general management coursework, 18 credits of specialization courses and one 3-credit elective. If all foundation courses are waived, the program is 33 credits in length. Students may waive the GMAT requirement if they have an acceptable GRE score and have two years of documented business experience.

- Foundation Core:
  All are required unless waived at time of admission
  3250:600 Foundations of Economic Analysis 3
  6200:601 Financial Accounting 3
  6400:602 Managerial Finance 3
  6400:695 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

Options

Choose a concentration from the following:

Information Systems Management (ISM)

- Management Core Courses (12 credits)
  6500:640 Information Systems and IT Governance 3
  6500:652 Organizational Behavior 3
  6500:663 Data Analysis for Managers 3
  6500:675 Supply Chain Management 3

- Information Systems Core (15 credits)
  6500:641 Business Database Systems 3
  6500:643 Analysis and Design of Business Systems 3
  6500:645 Software Development and Quality Assurance 3
  6500:646 Enterprise Systems Implementation 3
  6500:678 Project Management 3

- Electives - take any two of the following (6 credits)
  6500:520 Management of Data Networks 3
  6500:554 Information Systems Security 3
  6500:644 Knowledge Management and Business Intelligence 3
  6500:651 Organizational Transformation 3

Permission of Director of Graduate Business Programs

It is recommended that students interested in an Information Systems Management emphasis take 6500:644 and 6500:651. Students interested in a Systems Security track are encouraged to take 6500:520 and 6500:554.

Total Concentration: 21 credits

Human Resource Option (HRM)

- Management Core Courses (12 credits)
  6500:640 Information Systems and IT Governance 3
  6500:652 Organizational Behavior 3
  6500:663 Data Analysis for Managers 3
  6500:675 Supply Chain Management 3

- Free Elective (3 credits):
  The student must select 3 credits of free electives from outside the area of concentration. A 500-level course 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. Approval of Director is required.

- HRM Required Concentration Courses (15 credits)
  6500:650 Human Resource Systems for Managers 3
  6500:651 Management of Organizational Transformation 3
  6500:654 Management of Organizational Conflict 3
  6500:658 Strategic and Global Human Resource Management 3
  6500:660 Staffing and Employment Regulation 3

- HRM Restricted Electives (select 3 credits)
  Any 6500:6xx course

Total Concentration: 18 credits

Accelerated MSM - ISM Program Option

The MSM - Fast track Information Systems option has been designed for students in undergraduate information systems or related programs who are interested in pursuing graduate work with a project management emphasis. Additional requirements for students wishing to pursue this option include:

- Undergraduate degree in Information Systems (from AACSB accredited institution) or related fields with a Pre-MBA minor
- Undergraduate GPA of at least 3.0 with successful course completion in programming, database, and networking (B or better)
- Documented completion of an IS related internship (or other IS work experience) with a letter summarizing project and work scope from supervisor
- Letters of reference from undergraduate program director or faculty
- Undergraduate students who wish to count 6200:554 and 6500:520 toward their graduate degree may take these classes during their senior year and must receive a grade of B or better. These classes must be taken exclusive of students requirements toward the baccalaureate degree.
- Undergraduate degree must be completed at the most two years prior to planned date of program entry

Management Core Courses (9 credits)

- 6500:640 Information Systems and IT Governance 3
- 6500:663 Data Analysis for Managers 3
- 6500:675 Supply Chain Management 3

Information Systems Core (12 credits)

- 6500:643 Analysis and Design of Business Systems 3
- 6500:645 Software Development and Quality Assurance 3
- 6500:646 Enterprise Systems Implementation 3
- 6500:678 Project Management 3

Practicum (3 credits)

Choose one from the following:

- 6500:690 Selected Topics in Management
  (This course may be taken as an elective to add a Global or Study Abroad experience)
- 6700:695 Internship (see below for guidelines)

Electives (6 credits)

- 6500:520 Management of Data Networks 3
- 6500:554 Information System Security 3
- 6500:644 Knowledge Management and Business Intelligence 3
- 6500:652 Organizational Behavior 3

Guidelines for receiving credit for the Information Systems Internship:

- Students are required to work at least 20 hours per week
- Internship must be approved by the Department Chair
- Internships will be approved based on the type of business and the scope of work to be done
- Interns will complete the report based on MIS faculty specifications
- The internship should be in an area directly related to any of traditional Information Systems functions related to systems planning, analysis, design, programming, implementation, networking operations and infrastructure, technical documentation, systems installation, maintenance, and IT auditing.

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 either one 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 44325-0001). 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 25 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 accep-
tance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Programs in Business prior to completion. To earn both degrees, a total of 98 (J.D./M.Tax.), 102 (J.D./M.B.A.), or 101 (J.D./M.S.M.-HR) credits is required, depending on the master's program pursued. More credits may be required for the master's degree if Foundation courses are required.

Upon the approval of the director of Graduate Programs in Business, 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

Courses that will transfer as MTax elective courses:
9200:639 Estate and Gift Taxation (3 credits)  
9200:646 Non-profit Tax Entities (3 credits)  
9200:675 Special Problems in Estate Planning (3 credits)  
9200:680 Qualified Pension and Profit Sharing Plans (3 credits)  
9200:684 Entities (3 credits)  
9200:686 Wills, Trusts, and Estates I (3 credits)  
9200:684 Mergers and Acquisitions (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.

J.D./M.B.A. students may transfer nine credits of School of Law courses into the M.B.A. program. Six credits must be in their area of concentration and must be selected from the courses listed below. Related courses not listed under concentrations may transfer with approval of the director of graduate programs in Business Administration. Three credits of free electives may be chosen from other business-related law courses and must be approved by the director of graduate programs in Business Administration.

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 MSM-HR 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  
9200:685/686 Wills, Trusts and Estates I, II

Finance (choose 6 credits)
9200:629 Commercial Law II  
9200:635 Bankruptcy Law  
9200:639 Estate and Gift Taxation  
9200:652 Land Use Planning  
9200:671 Securities Regulation  
9200:675 Special Problems in Estate Planning  
9200:680 Qualified Pensions and Profit Sharing  
9200:685/686 Wills, Trusts and Estates I, II  
9200:691 International Investments

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

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Law Courses to be used as MBA Concentration Courses

Choices for Concentration Electives:

Accounting (choose 6 credits)
Beginning Fall 2006 no new students will be accepted to the MBA (Accounting Concentration) until further notice.

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  
9200:685/686 Wills, Trusts and Estates I, II

Finance (choose 6 credits)
9200:629 Commercial Law II  
9200:635 Bankruptcy Law  
9200:639 Estate and Gift Taxation  
9200:652 Land Use Planning  
9200:671 Securities Regulation  
9200:675 Special Problems in Estate Planning  
9200:680 Qualified Pensions and Profit Sharing  
9200:685/686 Wills, Trusts and Estates I, II  
9200:691 International Investments

International Business (choose 6 credits)
9200:649 International Law  
9200:676 International Trade  
9200:691 International Investments and 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
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 clinic at both The University of Akron and Kent State University. Students are supported in their quest for knowledge of their chosen fields and encouraged to shape their artistic and social environments.

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 120 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:
  - Basic and Applied Acoustics in Audiology
  - Anatomy and Physiology of the Peripheral Auditory & Vestibular System
  - Acoustic Phonetics
  - Critical Analysis of Research in Audiology
  - Directed Observation in Audiology I
  - Auditory Disorders
  - Anatomy and Physiology Underlying Neuro-Otology
  - Psychoacoustics
  - Critical Analysis of Research in Audiology II
  - Directed Observation in Audiology II
  - Audiologic Assessment
  - Industrial and Community Noise
  - Speech-Language Pathology for the Audiologist
  - Diagnosis of Auditory Disorders
  - Hearing Aid Technology
  - Gerontological Issues in Audiology
  - Clerkship II
  - Central Auditory Processing: Evaluation and Management
  - Adult Hearing Aid Fitting and Selection
  - Pediatric Audiology
  - Cochlear Implants
  - Internship I

Required by all program options:
- Foundation Courses
- Clinical Experience
- Research Project in Audiology
- Practice Management in Audiology
- Graduate audiologist I
- Graduate audiologist II
- Graduate audiologist III
- Graduate audiologist IV
- Graduate audiologist V
- Graduate audiologist VI

The University of Akron 2008-2009

College of Fine and Applied Arts

James M. Lynn, Ph.D., Interim Dean
Dudley B. Turner, Ph.D., Interim Assistant Dean

Mission Statement

The College of Fine and Applied Arts is dedicated to enhancing the quality of life of the individual, the University, and the community. Through instruction, research, creative activity, and outreach programs, the College fosters artistic and social inquiry and direct application of knowledge to self, family, and society. Students are supported in their quest for knowledge of their chosen fields and encouraged to shape their artistic and social environments.

MASTER’S DEGREE

Family and Consumer Sciences

A program of study is offered leading to the Master of Arts in Family and Consumer Sciences degree offers options in child 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 scores:
  - 800 combined on verbal and quantitative with at least a 4.0 on analytical writing; OR
  - 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.

Three letters of recommendation must be submitted.

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.
- Pass a written comprehensive examination over major and minor areas after the completion of at least 19 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:
  - Orientation to Graduate Studies in Family and Consumer Sciences
  - Historical and Conceptual Bases of Family and Consumer Sciences
  - Research Methods in Family and Consumer Sciences

Child and Family Development Option

Core Courses:
- Family in Lifespan Perspective
- Developmental Parent-Child Interactions (online)
- Family Dynamics
Cognate Electives

Select 7 credits with approval of advisor from within the School of Family and Consumer Sciences OR from a cognate area outside the School, OR from a combination of the two.

• Thesis or Project (select one):
  3100:694 Master's Project 5
  3100:699 Master's Thesis 5
  Total 40

Child Life Option

• Core Courses:
  3100:546 Culture, Ethnicity, and Family 3
  3100:500 Nutrition Communication and Education or 4
  5600:651 Techniques of Counseling 3
  3100:551 Child in the Hospital 4
  3100:555 Practicum Experience in a Child Life Program 3
  3100:584 Hospital Settings, Children, and Families 3
  3100:525 Children, Illness, and Loss 3
  3100:595 Child Life Internship 5

• Cognate:
  5600:622 Introduction to Play Therapy and 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.

• Thesis or Project (select one):
  3100:694 Master's Project 5
  3100:699 Master's Thesis 5
  Nonthesis (Select nine credits from the following list; two courses must be 600-level): 600

  3100:501 American Families in Poverty 3
  3100:504 Middle Childhood and Adolescence 3
  3100:506 Family Financial Management 3
  3100:540 Family Crisis 3
  3100:541 Family Relationships in the Middle and Later Years 3
  3100:542 Human Sexuality 3
  3100:546 Culture, Ethnicity, and the Family 3
  3100:548 Before and After School Child Care 2
  3100:560 Organization and Supervision of Child-Care Centers 3
  3100:568 Parent Education 3
  3100:688 Practicum in Family and Consumer Sciences 3

Nutrition and Dietsetics

A program of study is offered leading to the Master of Science in Nutrition and Dietsetics. 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.

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:
  - 7400:604 Orientation to Graduate Studies in Family and Consumer Sciences 1
  - 7400:688 Research Methods in Family and Consumer Sciences 3

• Core Courses:
  - 7400:624 Advanced Human Nutrition I 3
  - 7400:625 Advanced Human Nutrition II 3

**Electives**

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.

- 3100:685 Cardiac Physiology 3
- 3150:501 Biochemistry Lecture I 3
- 3150:502 Biochemistry Lecture II 3
- 7400:524 Nutrition in the Life Cycle 3
- 7400:590 Community Nutrition I - Lecture 3
- 7400:592 Community Nutrition II - Lecture 3
- 7400:597 Sports Nutrition 3
- 7400:598 Practicum in Dietetics 1-3
- 8200:561 Advanced Physiological Concepts in Health Care I 3
- 8200:562 Advanced Physiological Concepts in Health Care II 3
- 8200:608 Pathophysiology Concepts of Nursing Care 3
- 8200:812 Advanced Clinical Pharmacology 3

**Elective Electives**

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
- 5600:651 Techniques of Counseling 3
- 6500:600 Management and Organizational Behavior 3
- 7400:528 Nutrition in Medical Sciences II 3
- 4000:543 Nutrition Assessment 3
- 4000:513 Food System Management I 3
- 7400:514 Food System Management II Clinical 3
- 7400:500 Nutrition Communication and Education Skills 3

Total: 40

*Note: The M.S. in Nutrition and Dietetics 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):
  - 7500:595 Advanced Conducting: Instrumental 2
  - 7500:596 Advanced Conducting: Choral 2
  - 7500:615 Musical Styles and Analysis I (Chant throughPalestria) 2
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Straus) 2
  - 7500:819 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 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 in 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
  - 7510:6— Ensemble 2
  - 7500:5—/6— Other music courses 8
  - 5100:5—/6— Educational Foundations and Leadership 4
  - 5170:5—/6— General Administration 4
  - 55—5—/6— Curricular and Instructional Studies 4

• 5500:780 Seminar in Curricular and Instructional Studies 1-3

(Maximum of 4 credits of 5500:780)

**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 in 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
  - 7510:6— Ensemble 2
  - 7500:5—/6— Other music courses 8
  - 5100:5—/6— Educational Foundations and Leadership 4
  - 5170:5—/6— General Administration 4
  - 55—5—/6— Curricular and Instructional Studies 4

• 5500:780 Seminar in Curricular and Instructional Studies 1-3

(Maximum of 4 credits of 5500:780)

**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
  - 7500:699 Master’s Thesis/Project 4-6

• Additional music/education courses – select 23 credits with approval in 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
  - 7510:6— Ensemble 2
  - 7500:5—/6— Other music courses 8
  - 5100:5—/6— Educational Foundations and Leadership 4
  - 5170:5—/6— General Administration 4
  - 55—5—/6— Curricular and Instructional Studies 4

• 5500:780 Seminar in Curricular and Instructional Studies 1-3

(Maximum of 4 credits of 5500:780)

* Topics related to instrumental music.
Non-Thesis Option – 34 credits

- Required Music Education Core Courses – 9 credits
  750.611 Foundations of Music Education (summer) 3
  750.612 Practices and Trends in Music Education (fall) 3
  750.614 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:
  750.675 Seminar in Music Education* 9
  750.697 Advanced Problems in Music Education* 4
  7520.5—6— Applied Music 8
  7510.6— Ensemble 2
  7500.5—6— Other music courses 8
  5100.5—6— Educational Foundations and Leadership 4
  5170.5—6— General Administration 4
  55—5—6— Curricular and Instructional Studies 4
  or
  5500.780 Seminar in Curricular and Instructional Studies 1-3
  (Maximum of 4 credits of 5500.780)

* Topics related to general music.

Non-Thesis Option – 34 credits

- Required Music Education Core Courses – 9 credits
  750.611 Foundations of Music Education (summer) 3
  750.612 Practices and Trends in Music Education (fall) 3
  750.614 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:
  750.675 Seminar in Music Education* 9
  750.697 Advanced Problems in Music Education* 4
  7520.5—6— Applied Music 8
  7510.6— Ensemble 2
  7500.5—6— Other music courses 8
  5100.5—6— Educational Foundations and Leadership 4
  5170.5—6— General Administration 4
  55—5—6— Curricular and Instructional Studies 4
  or
  5500.780 Seminar in Curricular and Instructional Studies 1-3
  (Maximum of 4 credits of 5500.780)

* Topics related to general music.

Music Education Option: General Music Emphasis

Thesis Option – 32 credits

- Required Music Education Core Courses – 13-15 credits
  750.611 Foundations of Music Education (summer) 3
  750.612 Practices and Trends in Music Education (fall) 3
  750.614 Measurement and Evaluation in Music Education (spring) 3
  750.699 Master’s Thesis/Project 4-6

- Additional music/education courses – select 23 credits with approval music education and graduate advisors. Choices may include the following:
  750.675 Seminar in Music Education* 9
  750.697 Advanced Problems in Music Education* 4
  7520.5—6— Applied Music 8
  7510.6— Ensemble 2
  7500.5—6— Other music courses 8
  5100.5—6— Educational Foundations and Leadership 4
  5170.5—6— General Administration 4
  55—5—6— Curricular and Instructional Studies 4
  or
  5500.780 Seminar in Curricular and Instructional Studies 1-3
  (Maximum of 4 credits of 5500.780)

* Topics related to general music.

Non-Thesis Option – 34 credits

- Required Music Education Core Courses – 9 credits
  750.611 Foundations of Music Education (summer) 3
  750.612 Practices and Trends in Music Education (fall) 3
  750.614 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:
  750.675 Seminar in Music Education* 9
  750.697 Advanced Problems in Music Education* 4
  7520.5—6— Applied Music 8
  7510.6— Ensemble 2
  7500.5—6— Other music courses 8
  5100.5—6— Educational Foundations and Leadership 4
  5170.5—6— General Administration 4
  55—5—6— Curricular and Instructional Studies 4
  or
  5500.780 Seminar in Curricular and Instructional Studies 1-3
  (Maximum of 4 credits of 5500.780)

* Topics related to general music.

Music Education Option: Choral Emphasis

Thesis Option – 32 credits

- Required Music Education Core Courses – 13-15 credits
  750.611 Foundations of Music Education (summer) 3
  750.612 Practices and Trends in Music Education (fall) 3
  750.614 Measurement and Evaluation in Music Education (spring) 3
  750.699 Master’s Thesis/Project 4-6

- Additional music/education courses – select 23 credits with approval music education and graduate advisors. Choices may include the following:
  750.675 Seminar in Music Education* 9
  750.697 Advanced Problems in Music Education* 4
  7520.5—6— Applied Music 8
  7510.6— Ensemble 2
  7500.5—6— Other music courses 8
  5100.5—6— Educational Foundations and Leadership 4

* Topics related to general music.

Non-Thesis Option – 34 credits

- Required Music Education Core Courses – 9 credits
  750.611 Foundations of Music Education (summer) 3
  750.612 Practices and Trends in Music Education (fall) 3
  750.614 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:
  750.675 Seminar in Music Education* 9
  750.697 Advanced Problems in Music Education* 4
  7520.5—6— Applied Music 8
  7510.6— Ensemble 2
  7500.5—6— Other music courses 8
  5100.5—6— Educational Foundations and Leadership 4
  5170.5—6— General Administration 4
  55—5—6— Curricular and Instructional Studies 4
  or
  5500.780 Seminar in Curricular and Instructional Studies 1-3
  (Maximum of 4 credits of 5500.780)

* Topics related to general music.

Music Education Option: Choral Conducting

Thesis Option – 17 credits

- Required Choral Options (17 credits)
  750.556 Advanced Choral Conducting 4
  750.573 Studies in Choral Literature (20th Century) 2
  750.594 Integrated Conducting Workshop 2
  750.676 Workshop in Choral Music Education 2
  750.620/621 Choral Ensemble 3
  750.624 Applied Voice 4

- Electives (6 credits)
  750.570 Studies in Choral Literature I (Med/Rena) 2
  750.571 Studies in Choral Literature II (Baroque) 2
  750.572 Studies in Choral Literature III (Classical/Rom) 2
  750.615 Music Styles and Analysis I 2
  750.616 Music Styles and Analysis II 2
  750.617 Music Styles and Analysis III 3
  750.697 Advanced Problems 1-2

*Maximum total credits 36

*Performance option may be exercised (conducting a choral concert) along with a major research paper which focuses on the repertoire to be performed in lieu of a thesis.

Music History and Literature Option

- Music core courses – eight credits (to be selected):
  750.555 Advanced Conducting: Instrumental 2
  750.556 Advanced Conducting: Choral 2
  750.618 Musical Styles and Analysis IV (20th Century) 2
  750.619— Ensemble (participation required in two ensembles) 2
  750.697 Advanced Problems in Music 4

- Major required courses – 20-22 credits:
  750.651 Introduction to Musicology 2
  750.652 Music History Survey: Middle Ages and Renaissance 2
  750.622 Music History Survey: Baroque 2
  750.623 Music History Survey: Classic and Romantic 2
  750.624 Music History Survey: Music Since 1900 2
  750.625 Graduate Bibliography and Research in Music 2
  750.697 Advanced Problems in Music 4
  750.699 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.

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 in fields related to music technology. Students will leave the program with a portfolio of tutorials, recorded works, and/or computer software.

- **Music core courses – six credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:615 Musical Styles and Analysis I 2
  - 7500:616 Musical Styles and Analysis II 2
  - 7500:617 Musical Styles and Analysis III (Baroque through early Beethoven) 2
  - 7500:621 Musical History Survey: Baroque 2
  - 7500:622 Musical History Survey: Classic and Romantic 2
  - 7500:624 Musical History Survey: Music Since 1900 2

- **Major required courses – 25 credits:**
  - 7500:553 Music Software Survey and Use 2
  - 7500:613 Instructional Programming in Music for the Microcomputer 3
  - 7500:618 Musical Styles and Analysis IV (20th century) 2
  - 7500:627 Computer Studio Design 2
  - 7500:653 Electronic Music 3
  - 7500:699 Master’s Thesis/Project 4
  - 7510:6— Ensemble (participation in two ensembles required)* 2
  - 7520:6— Applied Voice (suggested minimum) 8

- **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 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
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:621 Musical History Survey: Baroque 2
  - 7500:622 Musical History Survey: Classic and Romantic 2
  - 7500:624 Musical History Survey: Music Since 1900 2

- **Major required courses – 23-26 credits:**
  - 500:562 Repertoire and Pedagogy: Organ 3
  - 7500:633 Teaching and Literature: Piano and Harpsichord 2
  - 7500:641 Advanced Accompanying II 1
  - 7500:642 Advanced Accompanying III 1
  - 7500:643 Advanced Accompanying IV 1
  - 7500:666 Advanced Song Literature 3
  - 7500:698 Graduate Recital (to be completed in a minimum of two performance media) 2
  - 7510:614 Keyboard Ensemble (participation in two ensembles required)** 2-4
  - 7510:618 Small Ensemble - Mixed 2
  - 7520:6— Applied Music (piano, organ and/or harpsichord) 8

- **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.

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

Performance Option in Voice

- **Music core courses: eight credits (to be selected):**
  - 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
  - 7500:621 Musical History Survey: Baroque 2
  - 7500:622 Musical History Survey: Middle Ages and Renaissance 2
  - 7500:624 Musical History Survey: Music Since 1900 2

- **Major required courses – 20-22 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:661 Vocal Pedagogy 3
  - 7500:666 Advanced Song Literature 3
  - 7500:698 Graduate Recital 2
  - 7510:6— Ensemble (participation in two ensembles required)** 2-4
  - 7520:6— Applied Voice 8

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

Performance Option in Keyboard

- **Music core courses: eight credits (to be selected):**
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:615 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
  - 7500:621 Musical History Survey: Baroque 2
  - 7500:622 Musical History Survey: Middle Ages and Renaissance 2
  - 7500:623 Musical History Survey: Classic and Romantic 2
  - 7500:624 Musical History Survey: Music Since 1900 2

- **Major required courses – 18-21 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:661 Vocal Pedagogy 3
  - 7500:662 Repertoire and Pedagogy: Organ 3
  - 7500:663 Teaching and Literature: Piano and Harpsichord 2
  - 7500:697 Advanced Problems in Music 2
  - 7520:698 Graduate Recital 2
  - 7510:6— Keyboard Ensemble (participation in two ensembles required)** 2-4
  - 7520:6— Applied Music (piano, organ and/or harpsichord) 8

- **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 Winds, String Percussion

- **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
  - 7500:621 Musical History Survey: Baroque 2
  - 7500:622 Musical History Survey: Classic and Romantic 2
  - 7500:623 Musical History Survey: Music Since 1900 2

- **Major required courses – 16-18 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7510:6— Ensemble (participation in two ensembles required)** 2-4
  - 7520:6— Applied Music (select appropriate instrument) 8

- **Select one of the following as appropriate to major instrument:**
  - 7500:630 Teaching and Literature: Brass Instruments 2
  - 7500:631 Teaching and Literature: Woodwind Instruments 2
  - 7500:532 Teaching and Literature: Percussion Instruments 2
  - 7500:634 Teaching and Literature: String Instruments 2
  - 7500:698 Graduate Recital 2

- **Electives – six credits.***

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

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

No more than a total of 16 credits of 7520 courses may be applied to the degree.

- **Degree total: 34-36 credits.**

- **Select one of the following as appropriate to major instrument:**
  - 7500:630 Teaching and Literature: Brass Instruments 2
  - 7500:631 Teaching and Literature: Woodwind Instruments 2
  - 7500:532 Teaching and Literature: Percussion Instruments 2
  - 7500:634 Teaching and Literature: String Instruments 2
  - 7500:698 Graduate Recital 2

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

**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  
  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  
  7500:624 Music History Survey: Music Since 1900  
  7500:656 Advance Choral Conducting  
  7500:570 Studies in Choral Literature I (Medieval/Renaissance)  
  7500:571 Studies in Choral Literature II (Baroque)  
  7500:572 Studies in Choral Literature III (Classical/Romantic)  
  7500:573 Studies in Choral Literature IV (Since 1900)  
  7500:675 Seminar in Music Education: Group Vocal Techniques  
  7500:697 Advanced Problems in Music (Choral Conducting)  
  7500:698 Graduate Recital  
  7510:620-21 Ensemble*  
  7520:624 Applied Music  

• 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 18 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  
  7500:555 Advanced Conducting: Instrumental  
  7500:556 Advanced Conducting: Choral  
  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 – 26-28 credits:
  7500:615 Musical Styles and Analysis I (Chant through Palestrina)  
  7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)  
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss)  
  7500:618 Musical Styles and Analysis IV (20th Century)  
  7500:619 Theory and Pedagogy  
  7500:697 Advanced Problems in Music  
  7500:699 Master’s Thesis/Project  
  7510:620-21 Ensemble participation in two semesters required**  
  7520:642 Applied Composition  

• 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 – 15 credits:  
  7600:600 Introduction to Graduate Study in Communication  
  7600:602 Qualitative Methods in Communication  
  7600:603 Quantitative Methods in Communication  
  7600:624 Survey of Communication Theory  
  7600:625 Theories of Mass Communication  
  7600:670 Communication Criticism  
  School coursework – 9 credits.
  Graduation 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  
    7800:605 Colloquium in the Arts  
    7800:665 Audience Development  
    7800:666 Principles of Arts Management  
    7800:682 Fund Raising and Grantsmanship in the Arts  
    7800:691 Arts Administration Practices and Policies  
    7800:692 Legal Aspects of Arts Administration  
    7800:698 Internship  
    7800:699 Master’s Thesis  
  • Required business courses (9 credits):
    6200:590 Special Topics in Accounting  
    6500:600 Management and Organizational Behavior  
    6600:600 Marketing Concepts  
    6600:630 Marketing of Services  
  • 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 0-3

Theatre Option

Complete a minimum of 36 credits distributed as follows:
• School core courses - 24 credits:  
  7800:600 Research and Writing Techniques  

Graduate Studies 69
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.

Master of Arts degree in Speech-Language Pathology Program

Admission Requirements - Speech-Language Pathology

- Hold an undergraduate major in speech-language pathology or complete undergraduate work
- Complete requirements for admission and send to Graduate School:
  * Application with intent to major in speech-language pathology
  * Official transcript with Fall term grades included
  * Three letters of recommendation
  * Graduate Record Examination scores
  * Resume
  * Statement of Purpose
- Graduate Assistantship - use Apply Online check box

Applications for admission in Fall or Spring are accepted and considered only once per year. Admission is competitive. Applications for admission for the following academic year should be received by January 15.

Degree Requirements

- The master’s thesis is optional for students in speech-language pathology. All students will successfully complete a course of study with a minimum of 56 credits, 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 4
  7700:590 Workshop 1-4
  7700:596 Developmental Disabilities 2
  7700:611 Research Methods in Communicative Disorders I 3
  7700:620 Articulation 4
  7700:623 Support Systems for Indv and Families with Communicative Disorders 3
  7700:624 Neurogenic Speech and Language Disorders 3
  7700:626 Voice and Cleft Plate 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
  7703:639 Audiology for the Speech-Language Pathologist 3
  7700:650 Advanced Clinical Practicum: Speech-Language Pathology (three registrations) 3
  7700:695 Externship: Speech Pathology and Audiology (two registrations) 6
  7700:696 Externship Seminar 1

Completion of 5610:693 Student Teaching in Speech Pathology and 5610:691 Student Teaching Seminar may be substituted for one 7700:695 registration and one 7700:696 SLP Seminar registration.

- Students must be registered for clinical practicum, externship, or student teaching during any academic period in which they are involved in in-house practicum, externship, or student teaching.

Social Work

The Master of Social Work Program is a joint degree program administered by 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 accredited 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 rigorous intellectual base, an opportunity for effective skill development, and an educational 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 applicant 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 application 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 semester.

The applicant must submit the following to the Graduate School through the online graduate application:

- Graduate application form accompanied by the application fee
- An essay of 3-5 typed pages explaining:
  a) why he/she wants to be a social worker;
  b) why a graduate degree is felt to be necessary to fulfill his/her personal or professional objectives;
  c) his/her views regarding diversity in society;
  d) a situation in which he/she was the recipient/provider of help, emotionally, socially, or economically, and if/how this situation impacted the desire to pursue 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 immediate supervisor, if employed).
- A completed Application Checklist.

In addition, applicants to the Joint MSW Program must have:

- An official transcript from each college or university attended (must include content in human biology as well as liberal arts coursework) sent directly to the Graduate School
- Undergraduate degree in social work or a related field.
- Minimum GPA of 3.00 in social and behavioral science courses taken prior to application 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. Intellectual 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 in 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. All individuals applying for a social work license in the state of Ohio are required to submit a criminal records check.

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 schedule 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
  7750:622 Fundamentals of Research I 3
  7750:631 Human Behavior and Social Environment: Small Social Systems 3
  7750:646 Social Welfare Policy I 3

- Spring Semester
  
  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
  7750:603 Psychopathology and Social Work 3
  7750:673 Strategies of Community Organization 3

- Spring Semester
  
  7750:604 Advanced Field Practicum 3
  7750:608 Advanced Practice with Small Systems II 3
  7750:675 Program Evaluation 3
  7750:672 Community Organization and Planning 3
  7750:675 Program Evaluation 3

Second Year Concentrations (Macro Practice):

- Fall Semester
  
  7750:603 Advanced Field Practicum 3
  7750:611 Dynamics of Racism and Discrimination 3
  7750:631 Human Behavior and Social Environment: Small Social Systems 3
  7750:672 Community Organization and Planning 3

- Spring Semester
  
  7750:604 Advanced Field Practicum 3
  7750:611 Dynamics of Racism and Discrimination 3
  7750:632 Fundamentals of Research I 3
  7750:672 Community Organization and Planning 3
  7750:675 Program Evaluation 3

Part-Time Program

Professional Foundation:

- Fall Semester (First Year)
  
  7750:631 HSSE: Small Systems 3
  7750:646 Social Welfare Policy I 3

- Spring Semester (First Year)
  
  7750:632 HSSE: Large Systems 3
  7750:647 Social Welfare Policy II 3

- Fall Semester (Second Year)
  
  7750:622 Fundamentals of Research I 3
  7750:605 Social Work Practice with Small Systems 3
  7750:601 Foundation Field Practicum 3

- Spring Semester (Second Year)
  
  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
  7750:603 Psychopathology and Social Work 3
  7750:607 Advanced Practice with Small Systems I 3

- Spring Semester (Third Year)
  
  7750:603 Advanced Practice with Small Systems I 3
  7750:607 Advanced Practice with Small Systems I 3

- Fall Semester (Fourth Year)
  
  7750:607 Advanced Practice with Small Systems I 3
  7750:604 Advanced Field Practicum 3
  7750:608 Advanced Field Practicum 3

- Spring Semester (Fourth Year)
  
  7750:608 Advanced Practice with Small Systems II 3
  7750:604 Advanced Field Practicum 3
  7750:607 Advanced Field Practicum 3
  7750:609 Advanced Field Practicum 3

Concentrations (Macro Practice):

- Fall Semester (Third Year)
  
  7750:611 Dynamics of Racism and Discrimination 3
  7750:634 Community, Economic Systems and Social Policy Analysis 3

- Spring Semester (Third Year)
  
  7750:671 Social Work Administration 3
  7750:672 Community Organization and Planning 3
  7750:675 Program Evaluation 3
  7750:603 Advanced Field Practicum 3

- Fall Semester (Fourth Year)
  
  7750:673 Strategies of Community Organization 3
  7750:675 Program Evaluation 3
  7750:604 Advanced Field Practicum 3

Advanced Standing Program

Direct Practice Concentration

- Summer Semester
  
  7750:650 Advanced Standing Integrative Seminar 6

- Fall Semester
  
  7750:611 Dynamics of Racism and Discrimination 3
  7750:603 Psychopathology and Social Work 3
  7750:607 Advanced Practice with Small Systems I 3
  7750:603 Advanced Field Practicum 3

- Spring Semester
  
  7750:604 Advanced Field Practicum 3
  7750:608 Advanced Practice with Small Systems II 3
  7750:604 Advanced Field Practicum 3

Macro Practice Concentration

- Summer Semester
  
  7750:650 Advanced Standing Integrative Seminar 6

- Fall Semester
  
  7750:611 Dynamics of Racism and Discrimination 3
  7750:672 Community Organization and Planning 3
  7750:603 Advanced Field Practicum 3
  7750:603 Advanced Field Practicum 3

- Spring Semester
  
  7750:675 Program Evaluation 3
  7750:608 Advanced Practice with Small Systems II 3
  7750:604 Advanced Field Practicum 3

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
- 7750:646 Social Welfare Policy
- 7750:622 Fundamentals of Research I

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.
Encouraged to become self-directed, collaborative, interdependent and independent. These variables are the foundation for lifelong learning and professional development. Nursing education at the master’s level builds upon baccalaureate nursing education and provides 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 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 who 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 competence in English, a minimum score of 550 on the Test of English as a Foreign Language.
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 interest, 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 grantsmanship. 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>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8200:610</td>
<td>History and Philosophy of Nursing Science</td>
<td>3</td>
</tr>
<tr>
<td>8200:815</td>
<td>Theory Construction and Development in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>8200:820</td>
<td>Introduction to Nursing Knowledge Domains</td>
<td>3</td>
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<tr>
<td>8200:840</td>
<td>Nursing Science Seminar I</td>
<td>3</td>
</tr>
<tr>
<td>8200:850</td>
<td>Nursing Science Seminar II</td>
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**Research methods, designs, and statistics:**

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<tr>
<td>8200:825</td>
<td>Quantitative Research Methods</td>
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<tr>
<td>8200:830</td>
<td>Qualitative Research Methods</td>
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<tr>
<td>8200:845</td>
<td>Advanced Methods for Research</td>
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<td>8200:827</td>
<td>Advanced Health Care Statistics I</td>
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<tr>
<td>8200:837</td>
<td>Advanced Health Care Statistics II</td>
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**Cognates:**

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<td>Cognates</td>
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<tr>
<td>8200:882</td>
<td>Field Experience in Nursing</td>
<td>1-12</td>
</tr>
<tr>
<td>8200:895</td>
<td>Special Topics in Nursing</td>
<td>3-6</td>
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<tr>
<td>8200:896</td>
<td>Individual Investigation in Nursing</td>
<td>1-3</td>
</tr>
<tr>
<td>8200:900</td>
<td>Research in Nursing</td>
<td>1-15</td>
</tr>
</tbody>
</table>

**Health Care and nursing policy:**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8200:835</td>
<td>Nursing and Health Care Policy</td>
<td>3</td>
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**Doctoral dissertation**

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Students who need more than 30 credit hours to complete the dissertation will enroll in 8200:880 Doctoral Dissertation II.

**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, individual qualifications of applicants differ. Graduates from The University of Akron may apply to either program directly. Graduates from Kent State University 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.
- 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.
- 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-BSN 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 8200:815, 8200:825, 8200:830, and 8200:835, students receive a maximum of 12 hours of by-passed credit for master’s level courses.

**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 demonstrates the student’s ability to conduct scholarly inquiry. 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 member 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.
Admission

**RN-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.
- 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 (8200:630) 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.

**MSN-Option Students:**
- Internship in advanced nursing practice during Summer Session II
- Internship in generalist practice during Summer Session I
- Minimum grade point average of 3.0 on a 4.0 scale for all previous coursework.
- GRE required for students with a GPA of 2.99 and below.
- GRE (preferred) or Miller Analogies Test taken within the last five years for the Ph.D. program.
- 3.00 GPA on a 4.0 scale for all previous coursework.
- 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.

**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 for roles as administrators or educators. The curriculum is based on the 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 II) 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 I
- 8200:609 Pathophysiological Concepts of Nursing Care II
- 8200:610 Theoretical Basis for Nursing
- 8200:611 Information Management in Advanced Nursing Practice
- 8200:612 Policy Issues in Nursing
- 8200:613 Nursing Inquiry I
- 8200:614 Nursing Inquiry II
- 8200:699 Master’s Thesis

Functional role courses selected by students based upon area of specialty.
• **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 American Association of Nurse Anesthetists’ Council on Certification of Nurse Anesthetists (CCNA).

8200.621 Advanced Physiological Concepts in Health Care I 3
8200.622 Advanced Physiological Concepts in Health Care II 3
8200.637 Nurse Anesthesia Residency I 3
8200.640 Scientific Components of Nurse Anesthesia 3
8200.641 Pharmacology for Nurse Anesthesia I 2
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 2
8200.647 Professional Role Seminar 2
8200.649 Nurse Anesthesia Residency II 4

**CRNA-MSN Anesthesia Option**

8200.640 Scientific Components of Nurse Anesthesia 3
8200.641 Pharmacology for Nurse Anesthesia I 3
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 (Primary Health Care) (45 credits) meets certification requirements through ANCC or PCBPNP. Child and Adolescent Health Nursing-Acute Care (CAH-Acute Care) can be selected as an alternative or additional option (45 credits). The focus of CAH-Acute Care is on the integration of evidenced-based knowledge and skills in acute care with children with complex, acute, critical, and chronic health conditions. Emphasis is on advanced practice in emergency departments, sub-specialty clinics, acute areas of hospitals and intensive care units with children with complex, acute, critical, and chronic health conditions.

Child and Adolescent Health Nursing Advanced Practice Track Primary Health Care Sequence (45 credits)

3400.586 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 II 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 Nursing IV Practicum 2
8200.659 Child and Adolescent Health Nursing IV 3

Child and Adolescent Health Nursing Nurse Practitioner Acute Care Option

Students in Child and Adolescent Health Nursing can choose to take the following course sequence as an alternative option to Child and Adolescent Health Nursing III and IV (45 credits) in the traditional Child and Adolescent Health Nurse Practitioner track, or they can take these courses in addition to the current sequence of primary health care courses.

Acute Care Sequence in addition to Primary Care (45 credits)

8200.685 Child and Adolescent Health Nursing-Acute Care III 3
8200.686 Child and Adolescent Health Nursing-Acute Care III Practicum 2
8200.687 Child and Adolescent Health Nursing-Acute Care IV 3
8200.688 Child and Adolescent Health Nursing-Acute Care IV Practicum 2

• **Psychiatric Mental Health Nursing**

Psychiatric Mental 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).

8200.611 Advanced Mental Health Assessment 3
8200.612 Advanced Adult/Gerontological Assessment with Practicum 3
8200.613 Advanced Clinical Pharmacology 3
8200.614 Psychiatric Mental Health, APN I Practicum 2
8200.615 Psychiatric Mental Health, APN I 3
8200.621 Clinical Psychopharmacology 3
8200.622 Psychiatric Mental Health APN Internship (elective only) 14
8200.623 Psychiatric Mental Health, APN II Practicum 2
8200.624 Psychiatric Mental Health, APN II 3
8200.625 Psychiatric Mental Health, APN III Practicum 2
8200.626 Psychiatric Mental Health, APN III 3
8200.637 Psychiatric Mental Health, APN IV Practicum 2
8200.638 Psychiatric Mental Health, APN IV 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
8200.613 Adult/Gerontological Health Nursing CNS I 2
8200.674 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 Adult/Gerontological Health Nursing CNS Practicum 3
8200.673 Adult/Gerontological Health Nursing CNS IV 1

• **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
8200.611 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 Nursing Practicum NP 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
8200.690 Clinical Management I 3
8200.692 Clinical Management II 3
8200.694 Clinical Management III 3

**Advanced Role Option**

• Administration (36 credits)

8200.630 Resource Management in Nursing Settings 3
8200.632 Fiscal Management in Nursing Administration 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

1Cognate electives may be substituted for 8200.608 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 Theoretical 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 or
  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 interinstitutional 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, Northeastern 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, P.O. 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, P.O. Box 95, Rootstown, Ohio 44272-0095. Letters should include assessments of the applicant's work quality and estimation of his/her ability to succeed in the program.
• Successful completion of a college-level mathematics or statistic 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 must achieve a minimum score of 550 on the TOEFL
• Two years work experience in a relevant field is highly recommended
• Letter of recommendation (maximum two pages) explaining candidate's educational and professional history, area of interest in public health, interest and motivation for seeking the MPH, and professional or academic career plans upon completion of 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 pubhth@neoucom.edu. The Program Co-Director on The University of Akron campus may be reached at (330) 972-6299.

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.
  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

Subtotal 18

Additional program requirements:
  8300:697 Capstone Project 3-6
  Electives 15-18
  Total 39

A capstone project, portfolio, and exit presentation are required of each student.
College of Polymer Science and Polymer Engineering

Stephen Z.D. Cheng, Ph.D., Dean

HISTORY

The University of Akron has been a focus for education and research in polymer science since 1910 when Professor Charles M. Knight began offering courses in rubber chemistry. Master’s theses treating rubber chemistry on the University library shelves date to 1920. The University began developing major laboratories in 1942 under the leadership of Professor G.S. 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 Polymer Science 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 benefit to both the economy and the environment.

• The primary purpose of the College is to educate its students in the science and engineering of polymers. Since the College is involved principally in graduate level education (M.S. and Ph.D.), its students are taught the skills of research by the faculty; occasionally assisted by visiting scientists, and post-doctoral associates.

• The involvement of the College faculty, students and associated staff in research provides a further purpose, i.e., to develop new knowledge concerning 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 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 engineering disciplines, materials science, 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 polymer engineering 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. All applications must be supported with at least three letters of reference and submission of GRE general test scores is required.

A student with a M.S. in Mechanical or Chemical Engineering from another university can be admitted to the Ph.D. program. Three letters of recommendation are required as well as GRE general test scores.

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 84 credits (exclusive of Master of Science thesis credit). Credits for participation in either Polymer Science or Polymer Engineering seminars do not apply toward the degree. At least 18 credits of graduate course work and all dissertation credits must be completed at the University.

There is a university minimum residence time requiring one year, although graduate students starting with a B.S. or B.A. typically spend 4 years in residence.

• Completion of 18 credits among the following core courses (2 credits each) in polymer science:

9871.601 Polymer Concepts
9871.602 Synthesis and Chemical Behavior of Polymers
9871.603 Polymer Structure
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

2 credits of polymer engineering and technology courses:
9871:701 Polymer Technology I

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/departmental seminar on the completed research.
- Pass an oral examination upon completion of a research dissertation.
- Demonstrate competency in computer programming.
- Pass the general requirements for the Doctor of Philosophy degree.
- Satisfy the foreign language requirement for the doctoral degree by meeting the requirements of Plan A, B, or C as specified by the student’s advisory committee. Appropriate research skills for Plan C are to be specified by the department on the basis of the student’s area of specialization and intended research. These skills include proficiency in computer programming language, special mathematical methods, applied statistical analysis, and special literature search techniques.

### Doctor of Philosophy in 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:

- Complete courses as developed in a plan of study approved by the student’s advisor and the department chair. 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 of the 60 credits must be dissertation research.

#### Polymer Engineering core (12 credits):
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
9841:641 Polymeric Materials Engineering Science 2

#### Polymer Engineering 600-level electives (9 credits):
9841:601 Polymer Engineering Seminar 1
9841:623 Analysis and Design of Polymer Processing Operations II 3
9841:650 Basic Engineering for Polymer Engineers 3
9841:651 Polymer Engineering Laboratory 3
9841:661 Polymerization Reactor Engineering 3
9841:675 Carbon-Polymer Nanotechnology 3
9841:680 Polymer Coatings 3

The Committee recommends 9841:651 to be compulsory for all full-time Ph.D. students, but it may be exempted as an elective for part-time students who are currently employed in polymer and related industries. Additional courses may be taken from other departments such as polymer science, chemical engineering, mechanical engineering, physics, mathematics, computer science, or other engineering departments with the advisor’s approval.

- 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 skill/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.

### Master of Science in Polymer Science

- A minimum of 24 credits in appropriate courses in biology, chemistry, mathematics, physics, polymer science and engineering as prescribed by the advisory committee:
  - Completion of 11 of credits in the following required core courses in polymer science: 9871:601 Polymer Concepts; 613 Polymer Science Laboratory; 631 Physical Properties of Polymers I; 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 (9871:690) 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.
  - Pass one cumulative exam.
**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.

Students in Polymer Engineering will earn the degree of Master of Science in Polymer Engineering. Requirements for the degree are as follows:

- Complete courses as developed in a plan of study approved by the student's advisor and the department chair. A minimum of 30 credits of graduate coursework must be earned. A total of 24 credit hours of lecture courses and 6 credit hours of research must be completed.
- **Polymer engineering core (12 credits):**
  - 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
  - 9841:641 Polymeric Materials Engineering Science 2
- **Polymer engineering 600-level electives (6 credits):**
  - 9841:601 Polymer Engineering Seminar 1
  - 9841:623 Analysis and Design of Polymer Processing Operations II 3
  - 9841:650 Basic Engineering for Polymer Engineers 3
  - 9841:651 Polymer Engineering Laboratory 3
  - 9841:652 Polymerization Reactor Engineering 3
  - 9841:675 Carbon-Polymer Nanotechnology 3
  - 9841:680 Polymer Coatings 3
- **Technical electives (6 credits):**
  - 3450:xxx: Approved Mathematics 3
  - 4300:681 Advanced Engineering Materials 3
  - 4600:622 Continuum Mechanics 3
  - 9841:xxx 3
  - 9871:613 Polymer Science Laboratory 3
  - 9871:674 Polymer Structure and Characterization 2
  - 9871:675 Polymer Thermodynamics 2
- **Thesis (6 credits):**
  - 9841:699 Master’s Thesis 6
- Students will take a Basic Engineering exam after their 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 (at his/her own expense) or graduate level courses within one year from the date of the exam. Students for whom the master's degree is a terminal degree may be exempted from taking remedial courses with the approval of his/her advisor and the department chair. NOTE: Any student who successfully completes course 9841:650, Basic Engineering for Polymer Engineers, 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.
- Each candidate must pass an oral examination in defense of the thesis.
- Submit the written master’s thesis to the Graduate School by the required deadlines.

**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 team taught.

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 indicates 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>8200:695</td>
<td>Acute Care Nurse Practitioner III</td>
<td>4</td>
</tr>
<tr>
<td>8200:696</td>
<td>Clinical Reasoning</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

**ADDITIONAL TOPICS**

**ADDITIONAL TOPICS**

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 counseling or a closely related field or currently hold a master’s degree in counseling or a closely related field. To participate in the program the student should:

- Be formally admitted to The University of Akron as a degree seeking or a special non-degree graduate student.
Program of Study

Elective Courses:

- 8200:623 Adult/Gerontological Health Practicum NP
- 8200:690 Clinical Management I
- 8200:692 Clinical Management II
- 8200:694 Clinical Management III

Total 18

ADULT/GERONTOLOGICAL HEALTH NURSING CLINICAL NURSE SPECIALIST – POST-MSN

The Post-MSN certificate program of 10-12 credit hours is designed for those nurses with a Master’s Degree in Nursing who want to complete the additional coursework required to sit for national certification as a Clinical Nurse Specialist in Medical Surgical Nursing or Gerontological Nursing. The Post-MSN Adult/Gerontological Health Nursing CNS Certificate Program prepares nurses to assume advanced practice positions in a variety of complex health systems environments providing leadership in interdisciplinary care. Post MSN students who do not have a clinical master’s degree will be assessed on an individual basis and may be required to take additional clinical coursework to achieve competencies required to be eligible to sit for certification.

Program of Study

Prerequisite Courses:

- 8200:608 Pathophysiological Concepts 3
- 8200:610 Advanced Adult/Gerontological Assessment 3
- 8200:612 Advanced Clinical Pharmacology 3

Post MSN Adult/Gerontological Health Nursing CNS Certificate Program Courses:

- 8200:677 Adult/Gerontological Health Nursing CNS III 2
- 8200:678 Adult/Gerontological Health Nursing CNS III Practicum 2
- 8200:673 Adult/Gerontological Health Nursing CNS IV 1
- 8200:679 Adult/Gerontological Health Nursing CNS IV Practicum 3
- 8200:636 Adult/Gerontological Health Nursing CNS Residency 2-4

Total 10-12

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:

- 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

Total credit hours 12

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:

- 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 two)*

- 3850:523 Sociology of Women 3
- 3850:528 Victim in Society 3
- 3700:690 Special Topics (conflict related) 1-3
- 9200:638** Family Law 3
- 9200:684** Alternative Dispute Resolution 3

*Law School classes are offered on a space available basis and require the permission of the 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 contingent upon a degree completion program.
A FULLY INTERDISCIPLINARY PROGRAM adaptable to any graduate degree.

**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 advanced political topics of 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 or the Director of the program.

**Core Courses** (required – 12 credits):

- 3700:570 Campaign Management I 3
- 3700:571 Campaign Management II 3
- 3700:672 Seminar: Political Influence and Organizations 3
- 3700:695 Internship in Government and Politics 3

**Electives** (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
- 3700:655 Campaign and Election Law 3
- 7600:675 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.

**ASIAN STUDIES GRADUATE CERTIFICATE**

Dr. Janet Klein, Director

Department of History, (330) 972-2562 or klein@uakron.edu

The graduate certificate in Asian Studies offers students a multidisciplinary course of study that will provide them with in-depth training in a special area that may be particularly useful as they pursue careers in such fields as Academia, Law, Public History, Education, Business, or Medicine where they will practice their professions abroad or use their international experience to expand their understanding of these regions as they work with topics on or populations from diverse societies in Asia. The certificate complements any graduate major and is also appropriate for students with a graduate degree who might like to return to the university for mid-career training.

**Requirements**

Two years of an Asian language (or equivalent), which serves as the program's core requirement plus four courses of approved electives. A minimum 3.0 grade point average in the courses that will fulfill the certificate. The student must be in good standing in his/her major department if enrolled in a degree program.

**Language Core:**

The entering student who does not have proficiency in an Asian language will have to satisfy the language requirement by completing two years of an Asian language offered by The University of Akron or any other accredited institution. Students may also fulfill the language requirement by demonstrating competency in the equivalent of a fourth-semester level of a higher chosen language at the FS-1 level (U.S. Department of State) or equivalent level. Currently The University of Akron offers the following:

- 3500:101 Beginning Chinese 4
- 3500:102 Beginning Chinese II 4
- 3500:201 Intermediate Chinese 3
- 3500:202 Intermediate Chinese II 3
- 3500:101 Beginning Japanese 4
- 3500:102 Beginning Japanese II 4
- 3500:201 Intermediate Japanese 3
- 3500:202 Intermediate Japanese II 3

**Elective Courses:**

Complete four of the following courses. At least one must be outside the student's major department. Exceptions or substitutions require approval from the Director. Credits will be provided with Director's approval for study and certain experiences abroad in Asian countries.

- 3370:695 Field Studies in Geology* 3
- 3400:500 Women in Revolutionary China 3
- 3400:501 Japan and the Pacific War, 1895-1945 3
- 3400:516 Modern India 3
- 3400:596 Special Studies in Asian History 3
- 3400:610 Comparative Studies in World Civilization 4
- 3400:640 Reading Seminar: China 4
- 7100:501 Special Topics** 3

* Field Studies in Geology abroad count for double credits.
** Recent 500-level Selected Topics in the School of Art have included “The Art of India,” “The Art of China,” “The Art of Korea and Japan,” and “The Art of Buddhist Japan.”

Courses with comparative content are encouraged. Any course that has significant Asian content (and for which the student has presented substantial written work on an Asian topic) may count toward the certificate program with the Director's approval. Students should consult with the Director for help planning an appropriate course of study.

**CASE MANAGEMENT FOR CHILDREN AND FAMILIES**

Helen K. Clemintshaw, Ph.D., Coordinator

**Program**

This certificate program is a special course of study which can be added to any graduate degree program. It may also be completed by a non-degree graduate student with special permission from the director of the Center for Family Studies. This certificate represents a concentration in theoretical and practical knowledge in collaborative cross-systems case management for children and families in the context of community-based services. This course of study promotes collaboration among disciplines and services.

**Admission**

To participate in the program the student should:

- Be formally admitted to The University of Akron as a postbaccalaureate, graduate or non-degree graduate student.
- Make written application to the program and receive written notification of admission from The Center for Family Studies.

**Requirements**

**Core:**

Students should successfully complete all three of the core courses listed below. However, the first two courses plus three hours of electives must be completed prior to the student's enrollment in the practicum course.

- 7400:561 Case Management for Children and Families I 3
- 7400:562 Case Management for Children and Families II 3
- 7400:563 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**
  - 7400:501 American Families in Poverty 3
  - 7400:504 Middle Childhood and Adolescence 3
  - 7400:540 Family Crisis 3
  - 7400:546 Culture, Ethnicity and the Family 3
  - 7400:602 Family in Life-Span Perspective 3
  - 7400:610 Child Development Theories 3
  - 7400:651 Family and Consumer Law 3
  - 7400:665 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 I Practicum 2
- 8200:655 Child and Adolescent Health Nursing II 3
- 8200:656 Child and Adolescent Health Nursing II Practicum 2
- 8200:658 Pharmacology for Child and Adolescent Health Nursing 3
- 8200:658 Child and Adolescent NP Internship (required 4 credits) 1-4*

Total: 17

**CHILD AND ADOLESCENT HEALTH NURSING-ACUTE CARE - POST-MSN**

The Post-MSN Child and Adolescent Health Nursing-Acute Care certificate program is designed for those pediatric nurses who hold the MSN and are seeking preparation as pediatric acute care nurse practitioners. Post MSN students will be assessed on an individual basis and may be required to complete additional courses from the Child and Adolescent Health Nursing track in order to achieve the competencies required to sit for certification as a pediatric acute care nurse practitioner.

**CAH Post-MSN Prerequisite Courses:**

- 8200:595 Nutrition for the Pediatric Nurse Practitioner 2
- 8200:600 Pathophysiological Concepts 3
- 8200:650 Advanced Pediatric/Adolescent Assessment 3
- 8200:656 Pharmacology for Child and Adolescent Health Nursing 3

**CAH Post-MSN Certificate Program Courses:**

- 8200:665 CAH Acute Care III 3
- 8200:668 CAH Acute Care III Practicum 2
- 8200:667 CAH Acute Care IV 3
- 8200:668 CAH Acute Care IV Practicum 2
- 8200:658 Child and Adolescent Health NP Residency (required) 1-4*

Total: 11-14*

*One credit hour requires five hours of supervised clinical practice. Students may be required to complete additional acute care clinical hours to achieve required competencies to sit for certification and the CAH NP Residency.

**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:**

- 3300:676 Theory and Teaching of Basic Composition 3
- 3300:673 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
- 3300:689 Seminar in English: Grammatical Structures of Modern English 3
- 3300:573 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 Clemshaw, 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

**Electives:**

- Select at least one from each area:
  - Law: 9200:638 Family Law 3
  - Accounting: 7400:651 Family Consumer Law 3
  - Family: 5600:655 Marriage and Family Therapy: Theory and Techniques 3

**E-BUSINESS**

B. S. Vijayaraman, Ph.D., Director

A new breed of technologies have offered new vistas and business opportunities. These technologies (called Web 2.0) have created possibilities for organizations to be innovative by incorporating internet social network and community tools such as blogs, wikis, and mashups. These technologies have also opened up new avenues and business models for entrepreneurs. The e-business certificate program is designed for students to learn how individuals can create exciting business opportunities on the internet. Persons are eligible for admission to the graduate certificate program if they have been admitted to the 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:**

- 6500:600 Marketing Concepts 3
- 6500:606 Marketing Strategies and Tactics 3

**Choose one of the following:**

- 6500:665 Management of Technology 3
- 6600:645 Innovative Marketing Strategies 3
- 6600:630 Marketing of Services 3
E-LEARNING

Cheryl Ward, 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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:629 e-Learning Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>5100:630 Topical Seminar: Advanced Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>5100:631 Instructional Design</td>
<td>3</td>
</tr>
<tr>
<td>5100:632 Web-based Learning Systems</td>
<td>3</td>
</tr>
<tr>
<td>5100:639 Strategies for Online Instruction</td>
<td>3</td>
</tr>
<tr>
<td>5100:698 Technology Project</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</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 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.

Civil Engineering students may earn an Environmental Engineering Certificate by completing five of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:563 Pollution Control</td>
<td>3</td>
</tr>
<tr>
<td>4300:526 Environmental Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:527 Water Quality Modeling and Management</td>
<td>3</td>
</tr>
<tr>
<td>4300:623 Physical/Chemical Treatment Processes</td>
<td>3</td>
</tr>
<tr>
<td>4300:624 Biological Wastewater Treatment Processes</td>
<td>3</td>
</tr>
<tr>
<td>4300:631 Soil Remediation</td>
<td>3</td>
</tr>
</tbody>
</table>

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):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3010:501 Seminar in Environmental Studies</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives (minimum of 14 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3010:501 Seminar in Environmental Studies</td>
<td>2</td>
</tr>
<tr>
<td>3010:590 Workshop in Environmental Studies</td>
<td>1-4</td>
</tr>
<tr>
<td>3100:521 Tropical Field Biology</td>
<td>3</td>
</tr>
<tr>
<td>3100:525 Freshwater Ecology Field and Laboratory Studies</td>
<td>3</td>
</tr>
<tr>
<td>3100:526 Wetland Ecology</td>
<td>4</td>
</tr>
<tr>
<td>3100:660 Environmental Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3100:626 Wetland Ecology</td>
<td>4</td>
</tr>
<tr>
<td>3100:660 Environmental Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3350:505 Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>3350:507 Advanced Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>3350:547 Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:549 Advanced Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:595 Soil and Water Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>3370:570 Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>3370:574 Groundwater Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>3370:661 Geologic Record of Past Global Change</td>
<td>3</td>
</tr>
<tr>
<td>3370:674 Advanced Groundwater Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>3370:678 Urban Geology</td>
<td>3</td>
</tr>
<tr>
<td>3400:571 American Environmental History</td>
<td>3</td>
</tr>
<tr>
<td>3470:561 Applied Statistics I</td>
<td>4</td>
</tr>
<tr>
<td>3700:512 Global Environmental Politics</td>
<td>3</td>
</tr>
<tr>
<td>3850:686 Population</td>
<td>3</td>
</tr>
<tr>
<td>4200:663 Pollution Control</td>
<td>3</td>
</tr>
<tr>
<td>4300:631 Soil Remediation</td>
<td>3</td>
</tr>
<tr>
<td>9200:661 Environmental Law</td>
<td>3</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:522 Understanding Racial and Gender Conflict</td>
<td>3</td>
</tr>
<tr>
<td>3850:639 Sociology of Gender</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:532 Politics and the Media</td>
<td>3</td>
</tr>
<tr>
<td>3700:622 Seminar in Alternatives to Violence at Home and Abroad</td>
<td>3</td>
</tr>
<tr>
<td>3850:523 Sociology of Women</td>
<td>3</td>
</tr>
<tr>
<td>3850:646 Social Inequalities</td>
<td>3</td>
</tr>
<tr>
<td>3850:510 Social Structure and Personality</td>
<td>3</td>
</tr>
<tr>
<td>3850:514 Sociology of Law</td>
<td>3</td>
</tr>
<tr>
<td>3850:555 Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>3850:753 ST. Gender and Crime</td>
<td>3</td>
</tr>
<tr>
<td>3230:516 Anthropology of Sex and Gender</td>
<td>3</td>
</tr>
<tr>
<td>3230:563 Social Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>3300:599 Seminar in English: Subversive Women</td>
<td>3</td>
</tr>
<tr>
<td>3300:589 Seminar in English: British Women Writers</td>
<td>3</td>
</tr>
<tr>
<td>3400:590 Special Studies: Women, Film, and History</td>
<td>3</td>
</tr>
<tr>
<td>3400:669 Reading Seminar in American History Since 1877 (US Women's History)</td>
<td>4</td>
</tr>
</tbody>
</table>

GRADUATE CERTIFICATE IN CROSS-CULTURAL NEGOTIATION

South and East Asian Track

Conflict Core (6 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:622 Alternatives to Violence at Home and Abroad</td>
<td>3</td>
</tr>
<tr>
<td>6600:575 Business Negotiations</td>
<td>3</td>
</tr>
</tbody>
</table>

Language Core (6 credits):

Complete second year Chinese or Japanese Language; or complete second year language work in another South or East Asian Language at an institution approved by the Director; or an equivalent approved by the Director.

Electives (9 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:560 Economics of Developing Countries</td>
<td>3</td>
</tr>
<tr>
<td>3250:561 Principles of International Economics</td>
<td>3</td>
</tr>
<tr>
<td>3400:516 Modern India</td>
<td>3</td>
</tr>
<tr>
<td>3400:500 Women in Revolutionary China</td>
<td>3</td>
</tr>
<tr>
<td>3400:610 Graduate Reading Seminar:Comparative Studies: World Civilization</td>
<td>3</td>
</tr>
<tr>
<td>3700:610 Seminar in International Politics</td>
<td>3</td>
</tr>
</tbody>
</table>
### Middle Eastern Track

**Conflict Core (6 credits):**
- 3700:562 Seminar in Comparative Politics
- 3850:555 Family Violence
- 3850:521 Racial and Ethnic Relations
- 5600:590 China for Educators
- 6600:630 International Marketing Policies
- 7600:550 Communication in Conflict
- 7600:645 Intercultural Communication Theory
- 9200:684* Alternative Dispute Resolution
- 3700:695 Internship (Student Conference on Cross-Cultural Negotiation or related project involving language immersion with approval of Director) 3-6

*Law School classes are offered on a space availability basis only.

### Language Core (6 credits):
Complete second year language work on a Middle Eastern Language at an institution approved by the Director, or an equivalent approved by the Director.

### Electives (9 credits):
- 3250:560 Economics of Developing Countries
- 3250:561 Principles of International Economics
- 3400:593 Special Studies in History: Women and Gender in the Middle East
- 3400:610 Graduate Reading Seminar: Comparative Studies: World Civilization
- 3400:610 Graduate Reading Seminar: Orientalism and its Discontents: Critical Approaches to Middle Eastern Histories and Historiographies
- 3700:505 Politics of the Middle East
- 3700:610 Seminar in International Politics
- 3700:620 Seminar in Comparative Politics
- 3850:555 Family Violence
- 3850:521 Racial and Ethnic Relations
- 5600:590 China for Educators
- 6600:630 International Marketing Policies
- 7600:550 Communication in Conflict
- 7600:645 Intercultural Communication Theory
- 9200:684* Alternative Dispute Resolution

### GERONTOLOGY

**Program**
The geographic information sciences (GISc) integrate concepts, methods, and tools for collecting, analyzing, and visualizing spatial data, including physical, environmental, social, and economic information. An education in this rapidly growing professional and scientific field leads to careers in the public and private sectors as GIS scientists, as geographic information systems (GIS) analysts, programmers, or technologists, or as cartographers or remote sensing analysts.

This graduate certificate can be taken by degree-seeking students in geography, biology, business, engineering, computer science, emergency management, anthropology, political science, public administration, geography, and other related disciplines. It can also be taken as a freestanding certificate by non-degree seekers such as professionals who want to enhance their knowledge and skills as well as by anyone who wants to learn about this rapidly advancing scientific and practical field.

For further program information contact Graduate Advisor, Department of Geography and Planning. (330) 972-7620.

**Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:505</td>
<td>Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>3350:540</td>
<td>Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350:547</td>
<td>Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:507</td>
<td>Advanced Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>3350:541</td>
<td>Global Positioning Systems (GPS)</td>
<td>1</td>
</tr>
<tr>
<td>3350:542</td>
<td>Cartographic Theory and Design</td>
<td>3</td>
</tr>
<tr>
<td>3350:544</td>
<td>Applications in Cartography and Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>3350:545</td>
<td>GIS Database Design</td>
<td>3</td>
</tr>
<tr>
<td>3350:546</td>
<td>GIS Programming and Customization</td>
<td>3</td>
</tr>
<tr>
<td>3350:549</td>
<td>Advanced Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:581</td>
<td>Research Methods in Geography and Planning</td>
<td>3</td>
</tr>
<tr>
<td>3350:583</td>
<td>Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350:596</td>
<td>Field Research Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

**GEOTECTHICAL 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
- 4300:614 Foundation Engineering I
- 4300:615 Foundation Engineering II
- 4300:617 Numerical Methods in Geotechnical Engineering
- 4300:717 Soil Dynamics

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
- Ground Improvement Methods
- Mechanically Stabilized Earth Walls and Reinforced Soil
- Slopes
- Deep Foundations

Students interested in these workshop courses should contact the Department of Civil Engineering.

**Requirements**

Harvey L. Sterns, Ph.D., Director

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

**Program**

Minimum: 18 credits

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
<tr>
<td>3350:596</td>
<td>Field Research Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

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HEALTHCARE MANAGEMENT

Healthcare is one of the fastest-growing sectors in the economy. According to some estimates healthcare has accounted for as much as a third of new private jobs in recent times. The healthcare management certificate program is designed for students to understand the structure and components of the healthcare sector and their interdependencies. In addition, students will learn how services such as ambulatory care and inpatient care will affect the cost, quality, and accessibility of healthcare delivery.

Persons are eligible for admission to the graduate certificate program if they have been admitted to the Graduate School at The University of Akron. Students admitted to the healthcare management certificate program may enroll only in those courses required for the completion of the certificate.

**Required Courses:**
- Introduction to Healthcare Management 3
- Health Services Operations Management 3
- Health Services Systems Management 3

**Elective Courses (Choose six credits from the following):**
- Special Topics in Health Services Administration 1-3
- Independent Study in Health Services Administration 1-13
- Health Economics 3
- Epidemiologic Methods in Health Research 3
- Sociology of Healthcare 3
- Biomedical Computing 3
- Computer Techniques for Managers 3
- Database Systems 3
- Human Resource Systems for Managers 3
- Data Analysis for Managers 3
- Supply Chain Management 3

*From student's home department.

**Electives:**
- Retirement Specialist 2
- Workshop – Women: Middle and Later Years 2
- Workshop – Aging: Process and Intervention 2
- Policy Problems: Aging (Offered every other year) 3
- Psychology Core II: Developmental, Perceptual, Cognitive 2
- Psychology of Adulthood and Aging 4
- Cross Cultural Perspectives in Aging 3
- Social Gerontology 3
- Educational Gerontology Seminar 3
- Current Issues in Higher Education: Life-Span and Community Education 3
- Health Services Systems Management (with permission) 3
- Family Relationships in Middle and Later Years 3
- Neurogenic Speech and Language Disorders 3
- Social Needs and Services for Older Adults and Aging 3

**Total hours required:** 18

*The awarding of this certificate is not contingent upon completion of a degree program. Graduate certificate programs require a 3.00 grade point average

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. 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 (12):**
- Seminar: History and Philosophy of Higher Education 3
- Administration in Higher Education 3

**Electives (6):**
- Law and Higher Education 3
- Student Services in Higher Education 3
- The American College Student 3
- Higher Education Curriculum and Program Planning 3
- Finance in Higher Education 3
- Policy, Assessment, and Accountability in Higher Education 3

Total 18

INTERDISCIPLINARY AND CERTIFICATE PROGRAMS

In recent years, the need for trained professionals in home-based intervention has led to the growth of programs that provide such training. The University of Akron offers a certificate program 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.

Students enrolled in the home-based certificate programs will enroll in the core course in Home-Based Intervention. Students enrolled in the undergraduate and post-baccalaureate program will enroll in the courses at the undergraduate level. Students admitted to the Graduate School as degree seeking or non-degree students will enroll in graduate courses. Graduate students enrolled in the core courses at the 500 level will have an additional graduate level project.

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 3-5

**Eligibility Courses:**

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

**Theoretical Frameworks:**
- Systems Theory
- General Systems Theory 3
- Theories and Philosophy of Counseling 3
- Marriage and Family Therapy: Theory and Techniques 3
- Developmental Theory 3
- Socialization: Child to Adult 3
**The University of Akron 2008-2009**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3400:602</td>
<td>Family in Life-Span Perspective</td>
<td>3</td>
</tr>
<tr>
<td>3400:605</td>
<td>Developmental Parent-Child Interactions (online)</td>
<td>3</td>
</tr>
<tr>
<td>3400:610</td>
<td>Child Development Theories</td>
<td>3</td>
</tr>
<tr>
<td><strong>The Therapeutic</strong></td>
<td><strong>Theory</strong></td>
<td></td>
</tr>
<tr>
<td>5600:651</td>
<td>Techniques in Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:667</td>
<td>Mental Therapy</td>
<td>3</td>
</tr>
<tr>
<td>5600:669</td>
<td>Systems Theory in Family Therapy</td>
<td>3</td>
</tr>
</tbody>
</table>

**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
  - 5600:620 Issues in Sexuality for Counselors 3
- Special Education
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3
  - 5610:560 Family Dynamics and Communication in the Educational Process 3
  - 5610:604 Collaboration and Consultation Skills for Special Educators 3
- Multicultural Education (Curricular and Instructional Studies)
  - 5500:571 Characteristics of Culturally Diverse Populations 3
- Family and Consumer Sciences
  - 3400:501 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
  - 3400:590 Workshop in Family and Consumer Sciences: Family and Divorce 2
  - 3400:596 Parent Education 3
- Social Work
  - 7750:510 Minority Issues in Social Work Practice 3
  - 7750:552 Social Work and Mental Health 3
  - 7750:554 Social Work in Juvenile Justice 3

**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)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:615</td>
<td>Special Education</td>
<td>3</td>
</tr>
<tr>
<td>6500:665</td>
<td>Management of Technology</td>
<td>3</td>
</tr>
<tr>
<td>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>6700:601</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6700:602</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>6600:602</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>

**MIDDLE EASTERN STUDIES GRADUATE CERTIFICATE**

Dr. Janet Klein, Director
Department of History, (330) 972-2562 or klein@uakron.edu

The graduate certificate in Middle Eastern Studies offers students a multidisciplinary course of study that will provide them with in-depth training in a special area that may be particularly useful as they pursue careers in such fields as Academia, Law, Public History, Education, Business, or Medicine where they will practice their profession abroad or use their international experience to expand their understanding of these regions as they work with topics on or populations from diverse societies in the Middle East. The certificate complements any graduate major and is also appropriate for students with a graduate degree who might like to return to the university for mid-career training.

**Requirements**
Two years of a Middle Eastern language (or equivalent), which serves as the program’s core requirement plus four courses of approved electives. A minimum 3.0 grade point average in the courses that will fulfill the certificate. The student must be in good academic standing in his/her major department if enrolled in a degree program.

**Language Core:**
The entering student who does not have proficiency in a Middle Eastern language will have to satisfy the language requirement by completing two years of a Middle Eastern language offered by The University of Akron or any other accredited institution. Students may also fulfill the language requirement by demonstrating competency in the equivalent of a fourth-semester level of his/her chosen language
at the FS-1 level (U.S. Department of State) or equivalent level. Currently The University of Akron offers the following:

- 3500:101 Beginning Arabic 4
- 3500:102 Beginning Arabic II 4
- 3500:201 Intermediate Arabic 3
- 3500:202 Intermediate Arabic II 3

**Elective Courses:**
Complete four of the following courses. At least one must be outside the student’s major department. Exceptions or substitutions require approval from the Director. Credits will be provided with the Director’s approval for study and certain experiences abroad in Middle Eastern countries.

- 3200:501 Egyptology * 3
- 3230:572 Selected Topics ** 3
- 3400:989 Ottoman State and Society 3
- 3400:596 Selected Studies (in the Middle East) 3
- 3400:598 Race, Nation, and Class in the Middle East 3
- 3400:599 Women and Gender in the Middle East 3
- 3400:612 Graduate Reading Seminar: The Middle East 4
- 3700:505 Politics in the Middle East 3

*Only one ancient world course will count toward the certificate.

**Recent 500-level Selected Topics in the Department of Classical Studies, Anthropology and Archaeology have included “Cultures of the Arab World.”

Courses with comparative content are encouraged. Any course that has significant Middle-Eastern content (and for which the student has presented substantial written work on a Middle Eastern topic) may count toward the certificate program with the Director’s approval. Students should consult with the Director for help planning an appropriate course of study.

**MOTION AND CONTROL SPECIALIZATION**
All manufacturing processes involve motion and control which may range from simple use of pneumatic cylinders in robotics 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.

**Admission:**
To participate in the program, the student should be formally admitted to The University of Akron as a post-baccalaureate, undergraduate, graduate, or non-degree graduate student.

**Requirements:**
Students should successfully complete all three courses listed below.

- 4600:442/454 Industrial Automatic Control 3
- 4600:444/464 Robot, Design, Control and Application 3
- 4600:670 Integrated Flexible Manufacturing Systems * 3

*Undergraduate students must obtain permission to take this course.

**NEW MEDIA TECHNOLOGIES**
Cheryl Ward, 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:**

- 5100:590 Workshop: Instructional Technology* 3
- 5100:631 Instructional Design 3
- 5100:632 Web-Based Learning Systems 3
- 5100:633 Hypermedia 3
- 5100:634 Visual Literacy 3
- 5100:635 Emerging Technologies 3
- 5100:636 Topical Seminar: Advanced Multimedia (may be repeated for 6 hours) 3
- 7500:590 Workshops in Music Technology* 3
- 7600:516 New Media Writing 3
- 7600:517 New Media Production 3
- 7600:598 Nonlinear Editing 3
- 7600:599 Workshops in Communication* 3

*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.

For information concerning Phase I required prerequisite courses (22 credit hours), please contact the College of Nursing, Graduate Program, (330) 972-7555.

**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):**

- 8200:637 Residency I (Pediatrics and Obstetrics) 4
- 8200:646 Residency II (Cardiac, Thoracic, Cardiovascular, and Neurology) 4
- 8200:648 Residency III (Hepatic, Renal, Endocrine, Head & Neck, Trauma, and Burns/Pain Management) 4
- 8200:647 Professional Role Seminar 2
- 8200:649 Residency IV (Senior Seminar) 4

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:**

- 8200:681 Instructional Methods in Nursing Education 3
- 8200:682 Nursing Curriculum Development 3
- 8200:683 Evaluation in Nursing Education 3
- 8200:684 Practicum: The Academic Role of the Nurse Educator 3

**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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>340:590</td>
<td>Parent Education</td>
<td>3</td>
</tr>
<tr>
<td>340:605</td>
<td>Developmental Parent-Child Interactions (online)</td>
<td>3</td>
</tr>
<tr>
<td>360:594</td>
<td>Practicum in Parent and Family Education</td>
<td>3</td>
</tr>
</tbody>
</table>

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
  - 340:501 American Families in Poverty
  - 340:504 Middle Childhood and Adolescence
  - 340:540 Family Crisis
  - 340:546 Culture, Ethnicity and the Family
  - 340:602 Family in Life-Span Perspective
  - 360:610 Child Development Theories
  - 340:665 Development in Infancy and Early Childhood

- Social Work
  - 775:555 The Black Family
  - 775:685 Social Work Practice: Family and Children
  - 775:686 Social Welfare Policy and Services: Family and Children

- Nursing
  - 8200:651 Child and Adolescent Health Nursing I

- Psychology
  - 3750:530 Psychological Disorders of Children
  - 3750:726 Child Psychology
  - 3750:737 Psychology of Learning Disabilities

- Sociology
  - 3850:512 Socialization Child to Adult
  - 3850:677 Family Analysis

- Educational Foundations
  - 5100:648 Individual and Family Development Across the Lifespan
  - 5100:721 Learning Processes

- Educational Guidance and Counseling
  - 5600:646 Multicultural Counseling
  - 5600:648 Individual and Family Development Across the Lifespan
  - 5600:656 Marriage and Family Therapy: Theories and Techniques
  - 5600:667 Marital Therapy
  - 5600:669 Systems Theory in Family Therapy

- Special Education
  - 5610:540 Developmental Characteristics of Exceptional Individuals
  - 5610:599 Communication and Consultation with Parents and Professionals

- Multicultural Education (Curricular and Instructional Studies)
  - 5500:571 Characteristics of Culturally Diverse Populations

- Educational Administration
  - 5170:604 School/Community Relations

PSYCHIATRIC NURSE PRACTITIONER – POST-MSN
The Post-MSN Psychiatric Nurse Practitioner certificate program is designed for those nurses who hold the Master’s degree in Psychiatric Mental Health Nursing or another nursing specialty and are seeking preparation for the role of the psychiatric nurse practitioner. Upon completion of the 10-13 credit hour program, students are eligible to sit for the psychiatric nurse practitioner certification examination. Post-MSN students who do not have their MSN in Psychiatric Nursing will be assessed on an individual basis and may have to take additional coursework in the track to acquire the competencies required to be eligible to sit for national certification.

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.

Prerequisite Courses:

- 8200:608 Pathophysiological Concepts
- 8200:610 Advanced Adult/Gerontological Assessment
- 8200:611 Advanced Mental Health Assessment

Required Courses

- 8200:662 Clinical Psychopharmacology
- 8200:665 Psychiatric Mental Health-Acute, APN II
- 8200:667 Psychiatric Mental Health-Chronic, APN III
- 8200:668 Psychiatric Mental Health Nursing Post MSN Residency

Total: 10-13

*One credit hour requires five hours of supervised clinical practice. Students may be required to complete additional clinical hours to achieve required competencies to sit for certification.

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 first must satisfy the requirements for entrance into the Graduate School, or have a bachelor’s degree and the equivalent of five years experience in a professional, administrative, or leadership position. Only 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)
- 3980:615 Public Organization Theory (required)
- 3980:616 Public Personnel
- 3980:617 Leadership and Decision Making (required)
- 3980:618 Citizenship Participation
- 3980:626 Grantmanship
- 3980:660 Strategic Management in Public and Non-profit Sectors
- 3980:680 Special Topics

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: 18 Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5400:500</td>
<td>Postsecondary Learner</td>
<td>3</td>
</tr>
<tr>
<td>5400:505</td>
<td>Workforce Education for Youth and Adults</td>
<td>3</td>
</tr>
<tr>
<td>5400:600</td>
<td>The Two-Year College</td>
<td>3</td>
</tr>
<tr>
<td>5400:520</td>
<td>Postsecondary Instructional Technology</td>
<td>3</td>
</tr>
<tr>
<td>5400:530</td>
<td>Systematic Curriculum Design for Postsecondary Instruction</td>
<td>3</td>
</tr>
<tr>
<td>5400:535</td>
<td>Systematic Instructional Design in Postsecondary Education</td>
<td>3</td>
</tr>
<tr>
<td>5400:675</td>
<td>Advanced Instructional Applications Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

NOTE: The Instructional Applications Seminar is the last course taken.
Non-profit Management

3980:617 Leadership and Decision Making 3
3980:619 Community Organizing 3
3980:626 Grantmanship (required) 3
3980:660 Strategic Management in Public and Nonprofit Sectors (required) 3
3980:662 Fund Raising and Resource Management (required) 3
3980:663 Non-profit 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
3980:621 Urban Society and Service Systems 3
3980:650 Comparative Urban Systems 3
3980:680 Special Topics 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 Ethnic Conflict 3
3850:521 Racial and Ethnic Relations 3

Electives:

3700:552 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 Inequalities 3
3850:541 Sociology of Law 3
3850:540 History of Racism 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, 1860-1877 4
Internship 3 credits from Sociology, Political Science, Anthropology, or History

STRUCTURAL ENGINEERING

This certificate program provides professionals an opportunity to expand their knowledge base in the design and behavior of structural 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 graduates may earn a Structural Engineering Certificate by completing the following five courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:551</td>
<td>Computer Methods of Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>4300:554</td>
<td>Advanced Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>4300:605</td>
<td>Structural Stability</td>
<td>3</td>
</tr>
<tr>
<td>4300:684</td>
<td>Advanced Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:685</td>
<td>Advanced Steel Design</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

TEACHING ENGLISH AS A SECOND LANGUAGE†

Kenneth J. Pakenham, Ph.D., Director

Requirements

This program is intended for those seeking training and an initial qualification in the teaching of English as a second language for the purpose of teaching ESL in settings other than the Ohio public school system.

The program is designed to introduce the student to the central issues in the theory and practice of teaching English to non-native speakers through courses in modern and applied linguistics, in second language pedagogy and in related disciplines.

Students who do not have English as a native language must demonstrate adequate proficiency in English with a valid TOEFL score of at least 550.

Program

- 3300:573 Seminar in Teaching ESL: Theory and Method 3
- 3300:589 Seminar in English: Grammatical Structures of English 3
- 5500:570 Multicultural Education in the U.S. ** 3
- 3300:589 Seminar in English: Sociolinguistics** 2-3
- 5500:543 Techniques for Teaching ESL in the Bilingual Classroom 4

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

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

TECHNICAL AND SKILLS TRAINING

Qetler Jensrud, Ph.D., Coordinator (e-mail: qetler@uakron.edu)

This certificate program in technical and skills training is a special course of study within the College of Education to serve the practicing or prospective business and/or industrial-technical trainer. Persons are eligible for admission to the Certificate in Technical and Skills Training if they have been fully admitted to The University of Akron to study as graduate students. Individuals who hold undergraduate or graduate degrees may also pursue this certificate. All coursework must be completed within six years. Beginning Fall 2006 all courses will also be available online.

Requirements

Minimum: 18 Credits

- 5400:550 Postsecondary Learner 3
- 5400:600 The Two-Year College 3
- 5400:520 Postsecondary Instructional Technology 3
- 5400:530 Systematic Curriculum Design for Postsecondary Instruction 3
- 5400:535 Systematic Curriculum Design in Postsecondary Education 3
- 5400:675 Instructional Applications Seminar 3

The Instructional Applications Seminar is the last course taken.

TRANSPORTATION ENGINEERING

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:564</td>
<td>Highway Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:566</td>
<td>Pavement Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300:568</td>
<td>Traffic Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

and two of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:663</td>
<td>Advanced Transportation Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>4300:664</td>
<td>Advanced Transportation Engineering II</td>
<td>3</td>
</tr>
<tr>
<td>4300:665</td>
<td>Traffic Detection and Data Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840:580 Feminist Theory</td>
<td>3</td>
</tr>
<tr>
<td>1840:589 Internship in Women’s Studies</td>
<td>1-4</td>
</tr>
<tr>
<td>1840:590 Workshop: Women’s Studies Lecture Series</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

Three classes selected from the Women’s Studies Coordinating Council-approved list of graduate level courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840:585 Special Topics in Women’s Studies: Women, Minorities and Media</td>
<td>3</td>
</tr>
<tr>
<td>1840:585 Special Topics in Women’s Studies: Women, Poverty and Welfare</td>
<td>3</td>
</tr>
<tr>
<td>1840:585 Special Topics in Women’s Studies: Women as Survivors</td>
<td>3</td>
</tr>
<tr>
<td>1840:585 Special Topics in Women’s Studies: Worlds of Women</td>
<td>3</td>
</tr>
<tr>
<td>1840:589 Internship in Women’s Studies</td>
<td>1-4</td>
</tr>
<tr>
<td>3200:550 ST in Ancient Culture: Women and Gender in Classical Antiquity</td>
<td>3</td>
</tr>
<tr>
<td>3230:572 Women in Antiquity</td>
<td>3</td>
</tr>
<tr>
<td>3330:553 American Women Poets</td>
<td>3</td>
</tr>
<tr>
<td>3320:516 The Anthropology of Sex and Gender</td>
<td>3</td>
</tr>
<tr>
<td>3300:589 Seminar in English: Twentieth Century Women Writers</td>
<td>3</td>
</tr>
<tr>
<td>3300:589 Seminar in English: Women and Film</td>
<td>3</td>
</tr>
<tr>
<td>3300:589 Seminar in English: Subversive Women</td>
<td>3</td>
</tr>
<tr>
<td>3300:589 Seminar in English: British Women Writers</td>
<td>3</td>
</tr>
<tr>
<td>3400:500 Women in Revolutionary China</td>
<td>3</td>
</tr>
<tr>
<td>3400:593 Special Studies: Women Film and History</td>
<td>4</td>
</tr>
<tr>
<td>3400:593 Special Studies: Women in the Middle East</td>
<td>3</td>
</tr>
<tr>
<td>3400:593 Special Studies: Medieval Women</td>
<td>3</td>
</tr>
<tr>
<td>3700:522 Understanding Racial and Gender Conflict</td>
<td>3</td>
</tr>
<tr>
<td>3750:574 Psychology of Women</td>
<td>4</td>
</tr>
<tr>
<td>3850:525 Sociology of Urban Life</td>
<td>3</td>
</tr>
<tr>
<td>3850:535 Sociology of Gender</td>
<td>3</td>
</tr>
<tr>
<td>7100:501 Special Topics in History of Art: Women in Art</td>
<td>3</td>
</tr>
<tr>
<td>7600:596 Seminar: Women and Food</td>
<td>1-3</td>
</tr>
<tr>
<td>7600:508 Women, Minorities, and News</td>
<td>3</td>
</tr>
<tr>
<td>7750:511 Women’s Issues in Social Work Practice</td>
<td>3</td>
</tr>
<tr>
<td>9200:654 Seminar: Feminist and Race Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

or other classes as approved by Women’s Studies Graduate Coordinator for the certificate
SECTION 5. Graduate Courses

Course Numbering Index*

Interdisciplinary Programs

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>Divorce Mediation</td>
<td>3 credits</td>
</tr>
<tr>
<td>1820</td>
<td>Home-Based Intervention Therapy</td>
<td>3 credits</td>
</tr>
<tr>
<td>1840</td>
<td>Women's Studies</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

Buchtel College of Arts and Sciences

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>3100</td>
<td>Biology</td>
<td>3 credits</td>
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<tr>
<td>3110</td>
<td>Biology/NEOUCOM</td>
<td>3 credits</td>
</tr>
<tr>
<td>3150</td>
<td>Chemistry</td>
<td>3 credits</td>
</tr>
<tr>
<td>3200</td>
<td>Classics</td>
<td>3 credits</td>
</tr>
<tr>
<td>3220</td>
<td>Anthropology</td>
<td>3 credits</td>
</tr>
<tr>
<td>3240</td>
<td>Archaeology</td>
<td>3 credits</td>
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<tr>
<td>3250</td>
<td>Economics</td>
<td>3 credits</td>
</tr>
<tr>
<td>3300</td>
<td>English</td>
<td>3 credits</td>
</tr>
<tr>
<td>3350</td>
<td>Geography and Planning</td>
<td>3 credits</td>
</tr>
<tr>
<td>3370</td>
<td>Geology</td>
<td>3 credits</td>
</tr>
<tr>
<td>3400</td>
<td>History</td>
<td>3 credits</td>
</tr>
<tr>
<td>3450</td>
<td>Mathematics</td>
<td>3 credits</td>
</tr>
<tr>
<td>3460</td>
<td>Computer Science</td>
<td>3 credits</td>
</tr>
<tr>
<td>3470</td>
<td>Statistics</td>
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</table>

College of Engineering

<table>
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<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100</td>
<td>General Engineering</td>
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</tr>
<tr>
<td>4200</td>
<td>Chemical Engineering</td>
<td>3 credits</td>
</tr>
<tr>
<td>4300</td>
<td>Civil Engineering</td>
<td>3 credits</td>
</tr>
<tr>
<td>4400</td>
<td>Mechanical Engineering</td>
<td>3 credits</td>
</tr>
<tr>
<td>4800</td>
<td>Biomedical Engineering</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

College of Education

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100</td>
<td>Educational Foundations and Leadership</td>
<td>3 credits</td>
</tr>
<tr>
<td>5170</td>
<td>General Administration</td>
<td>3 credits</td>
</tr>
<tr>
<td>5190</td>
<td>Higher Education Administration</td>
<td>3 credits</td>
</tr>
<tr>
<td>5400</td>
<td>Postsecondary Technical Education</td>
<td>3 credits</td>
</tr>
<tr>
<td>5500</td>
<td>Curricular and Instructional Studies</td>
<td>3 credits</td>
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</tbody>
</table>

College of Business Administration

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200</td>
<td>Accountancy</td>
<td>3 credits</td>
</tr>
<tr>
<td>6300</td>
<td>Entrepreneurship</td>
<td>3 credits</td>
</tr>
<tr>
<td>6400</td>
<td>Finance</td>
<td>3 credits</td>
</tr>
<tr>
<td>6500</td>
<td>Management</td>
<td>3 credits</td>
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</tbody>
</table>

College of Fine and Applied Arts

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100</td>
<td>Art</td>
<td>3 credits</td>
</tr>
<tr>
<td>7400</td>
<td>Family and Consumer Sciences</td>
<td>3 credits</td>
</tr>
<tr>
<td>7700</td>
<td>Speech-Language Pathology and Audiology</td>
<td>3 credits</td>
</tr>
<tr>
<td>7500</td>
<td>Music</td>
<td>3 credits</td>
</tr>
<tr>
<td>7510</td>
<td>Musical Organizations</td>
<td>3 credits</td>
</tr>
<tr>
<td>7520</td>
<td>Applied Music</td>
<td>3 credits</td>
</tr>
<tr>
<td>7600</td>
<td>Communication</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

College of Nursing

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200</td>
<td>Nursing</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

College of Polymer Science and Polymer Engineering

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>9841</td>
<td>Polymer Engineering</td>
<td>3 credits</td>
</tr>
<tr>
<td>9871</td>
<td>Polymer Science</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

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

3300:507 Middle English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. In the case, 3000 represents the Buchtel College of Arts and Sciences; 300 refers to the Department of English. The second set of digits (507) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is being specified. The colon following the course number indicates the course. Please refer to the Department of English for details.

An explanation of that numbering system follows:

- **500-699** Master's-level courses (also, 600-799 J.D.-level courses)
- **700-899** Doctoral-level courses

Interdisciplinary Programs

**DIVORCE MEDIATION 1800:**

601 Divorce Mediation 3 credits

- Prerequisite: Admission to the Graduate Certificate Program in Divorce Mediation. Overview of divorce mediation process includes guidelines for negotiating separation and divorce agreements, division of personal and real property, support, custody, and future plans.

602 Divorce Mediation Practicum 2 credits

- Prerequisite: 601. Practical application of divorce mediation procedures. Review of strategies and ethical considerations.

**HOME-BASED INTERVENTION THERAPY 1820:**

503 Home-Based Intervention Theory 3 credits

- Prerequisite: Admission to Certificate Program. Overview of home-based intervention to include philosophy and description of this programming as well as assessment of family, their home and community environment.

504 Home-Based Intervention Techniques and Practice 3 credits

- Prerequisite: 503. Provides intervention techniques and skill areas required for home-based intervention and learning opportunities for matching techniques with specific family problems.

505 Home-Based Intervention Internship 3-6 credits

- Prerequisite: 504. Gives 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.

**WOMEN'S STUDIES 1840:**

580 Feminist Theory 3 credits

- A summary of feminist theory to familiarize students with the main currents in contemporary feminist theory and the origins and evolution of that thought.

585 Special Topics in Women's Studies 1-3 credits

- May be repeated. Specialized topics and current issues in Women's Studies. Covers content and issues not currently addressed in other academic courses. Emphasizes the synthesis of original source materials, critical analyses and the synthesis of empirical and theoretical aspects.

589 Internship in Women's Studies 1-4 credits

- May be repeated for a maximum of 4 credits. Prerequisite: 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.

590 Workshop 1-3 credits

- (May be repeated.) Group experiential study of special issues in Women's Studies.

593 Individual Studies on Women 1-3 credits

- (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.

**COOPERATIVE EDUCATION 3000:**

501 Cooperative Education 0 credits

- Prerequisite: 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/noncredit.

**INSTITUTE FOR LIFE-SPAN DEVELOPMENT & GERONTOLOGY 3006:**

680 Interdisciplinary Seminar in Life-Span Development and Gerontology 3 credits

- Prerequisite: permission. The certificate program student only. Explores interdisciplinary issues in life-span development and gerontology and services which have life-span development and gerontological components and from government and community facilities and services.

685 Special Topics 1-3 credits

- Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology, or gender. Emphasis is on original source materials, critical analyses and the synthesis of empirical, theoretical and applied aspects.

686 Retirement Specialist 2 credits

- An investigation of issues related to the design and implementation of pre-retirement planning and examination of life-span planning education as employed by labor, business and education.

690 Workshop 1-3 credits

- (May be repeated.) Group studies of special topics in life-span development and gerontology. May be used as elective credit but not as part of certificate required courses.

695 Practicum in Life-Span Development and Gerontology 3 credits

- Prerequisite: permission. Supervised experience in research or community agency work.

**ENVIRONMENTAL STUDIES 3010:**

501 Seminar in Environmental Studies 2 credits

- Prerequisite: graduate standing. Interdisciplinary environmental topic or topics from interdisciplinary viewpoint each semester. The director of Environmental Studies coordinates course; resource persons are drawn from the University and surrounding community.

590 Workshop in Environmental Studies 1-2 credits

- Prerequisite: varies with topic. Credit in graduate program must have prior approval of advisor. Skills, attitudes and fundamental concepts dealing with timely environmental problems and issues covered. Instruction under direction of University faculty.

595 Field/Lab Studies in Environmental Science 3 credits

- Prerequisite: permission. A Field/Laboratory inquiry into a specific interdisciplinary, environmental science topic. Students complete a research project where they collect, analyze, and interpret real world data. May be repeated for a maximum of 6 credit hours.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>FOOD PLANTS</td>
<td>2 credits</td>
</tr>
<tr>
<td>508</td>
<td>PRINCIPLES OF SYSTEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>512</td>
<td>ADVANCED ECOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>518</td>
<td>FIELD ECOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>521</td>
<td>TROPICAL FIELD BIOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>522</td>
<td>CONSERVATION BIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>523</td>
<td>POPULATION BIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>526</td>
<td>WETLAND ECOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>527</td>
<td>LIMNOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>528</td>
<td>BIOLOGY OF BEHAVIOR</td>
<td>3 credits</td>
</tr>
<tr>
<td>529</td>
<td>BIOLOGY OF BEHAVIOR LABORATORY</td>
<td>1 credit</td>
</tr>
<tr>
<td>530</td>
<td>COMMUNITY/ECOSYSTEM ECOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>533</td>
<td>PATHOGENIC BACTERIOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>539</td>
<td>ADVANCED IMMUNOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>540</td>
<td>MYCOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>541</td>
<td>PLANT DEVELOPMENT</td>
<td>4 credits</td>
</tr>
<tr>
<td>542</td>
<td>PLANT ANATOMY</td>
<td>3 credits</td>
</tr>
<tr>
<td>543</td>
<td>PHYSIOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>544</td>
<td>FIELD MARINE PHYSIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>545</td>
<td>PLANT MORPHOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>551</td>
<td>GENERAL ENTOMOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>553</td>
<td>INVERTEBRATE ZOOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>554</td>
<td>PARASITOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>556</td>
<td>OXOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>557</td>
<td>HERPETOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>558</td>
<td>VERTEBRATE ZOOLOGY</td>
<td>4 credits</td>
</tr>
</tbody>
</table>

**Arts and Sciences**

**Biology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>559</td>
<td>ENVIRONMENTAL PHYSIOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>560</td>
<td>MOLECULAR BIOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>561</td>
<td>COMPARATIVE VERTEBRATE MORPHOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>562</td>
<td>SURVIVAL METHODS</td>
<td>3 credits</td>
</tr>
<tr>
<td>563</td>
<td>ADVANCED CARDIOVASCULAR PHYSIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>564</td>
<td>ADVANCED IMMUNOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>565</td>
<td>GENETICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>566</td>
<td>BIOLOGY OF REPRODUCTION</td>
<td>3 credits</td>
</tr>
<tr>
<td>567</td>
<td>SOCIAL BEHAVIOR LABORATORY</td>
<td>1 credit</td>
</tr>
<tr>
<td>568</td>
<td>LABORATORY EXPERIMENT IN BIOLOGY</td>
<td>1 credit</td>
</tr>
<tr>
<td>569</td>
<td>WORKSHOP IN BIOLOGY</td>
<td>1 credit</td>
</tr>
<tr>
<td>570</td>
<td>BIOLOGICAL PROBLEMS</td>
<td>1 credit</td>
</tr>
<tr>
<td>571</td>
<td>EVOLUTIONARY ECOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>572</td>
<td>GENETICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>573</td>
<td>BIOLOGICAL MECHANISMS OF STRESS</td>
<td>3 credits</td>
</tr>
<tr>
<td>574</td>
<td>FIELD OBSERVATIONS</td>
<td>3 credits</td>
</tr>
<tr>
<td>575</td>
<td>ANIMAL PHYSIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>576</td>
<td>ADVANCED PHYSIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>577</td>
<td>ADVANCED ANATOMY</td>
<td>3 credits</td>
</tr>
<tr>
<td>578</td>
<td>ADVANCED HUMAN PHYSIOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>579</td>
<td>ADVANCED PHYSIOLOGY, PATHOPATHOLOGY, AND PHARMACOLOGY</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

**Notes:**
- Some courses may be taken for elective credit only.
- Prerequisites and co-requisites are required for many courses.
- The university reserves the right to change course requirements at any time.
- Contact the university for the most current information.
- This is a partial list; full course descriptions are available online or from the university's course catalog.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>671</td>
<td>DEVELOPMENTAL BIOLOGY</td>
<td>4</td>
<td></td>
<td>The study of cellular and molecular mechanisms underlying animal development.</td>
</tr>
<tr>
<td>673</td>
<td>INTEGRATIVE STRESS PHYSIOLOGY</td>
<td>3</td>
<td>Prerequisite: B.S. in Biology or equivalent.</td>
<td>This course is designed to examine the behavioral, physiological, psychological, and molecular mechanisms of how various types of stressors affect the organism.</td>
</tr>
<tr>
<td>674</td>
<td>INTEGRATED CARDIOVASCULAR PHYSIOLOGY</td>
<td>3</td>
<td>Prerequisite: B.S. in Biology or equivalent.</td>
<td>Integration of epidemiological, behavioral, physiological, molecular, and genetic mechanisms of cardiovascular function in health and disease.</td>
</tr>
<tr>
<td>675</td>
<td>INTEGRATIVE PHYSIOLOGICAL GENOMICS</td>
<td>4</td>
<td>Prerequisite: B.S. in science discipline.</td>
<td>This course uses methodologies from genetics and physiology as an integrated approach to studying whole body systems.</td>
</tr>
<tr>
<td>681</td>
<td>CYTOLOGY</td>
<td>4</td>
<td></td>
<td>The study of how a cell's structure, biochemistry, metabolism, and molecular biology integrate to produce cell function. Laboratory.</td>
</tr>
<tr>
<td>683</td>
<td>SELECTED TOPICS IN MICROBIOLOGY</td>
<td>3</td>
<td></td>
<td>The study of organization, function, and development of the vertebrate nervous system.</td>
</tr>
<tr>
<td>685</td>
<td>ADVANCED CELL PHYSIOLOGY</td>
<td>3</td>
<td></td>
<td>Structure and functional organization of cells at ultrastructural level. Three lecture hours a week.</td>
</tr>
<tr>
<td>686</td>
<td>PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY</td>
<td>3</td>
<td></td>
<td>Modern cytological methods using transmission electron microscope. Portfolio required to demonstrate proficiency in fixation techniques, use of ultramicrotome, light and electron microscopes and darkroom techniques.</td>
</tr>
<tr>
<td>689</td>
<td>PRINCIPLES OF SCANNING ELECTRON MICROSCOPY</td>
<td>3</td>
<td></td>
<td>An introduction to modern cytological methods using the scanning electron microscope. A portfolio is required to demonstrate proficiency in fixation techniques, the use of supplementary equipment such as the critical point drying apparatus and the sputter-coating apparatus and the effective use of the scanning electron microscope.</td>
</tr>
<tr>
<td>695</td>
<td>SPECIAL TOPICS: BIOLOGY</td>
<td>1-3</td>
<td>(May be repeated)</td>
<td>Prerequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
</tr>
<tr>
<td>698</td>
<td>BIOLOGY COLLOQUIUM</td>
<td>1</td>
<td>(May be repeated)</td>
<td>Prerequisite: Permission. Attendance at all departmental seminars and presentation of seminar based on original research. Required of all thesis option students who will not do their thesis research.</td>
</tr>
<tr>
<td>703</td>
<td>COMMUNICATING IN INTEGRATED BIOSCIENCE</td>
<td>2</td>
<td></td>
<td>Students will learn standard, common techniques that are applicable across broad areas of research in integrated bioscience.</td>
</tr>
<tr>
<td>702</td>
<td>PROBLEM SOLVING IN INTEGRATED BIOSCIENCE</td>
<td>2</td>
<td></td>
<td>Introduction of biostatistics topics to professionals of a broad audience. Students present topics in their area of expertise to other (non-discipline) students in the course.</td>
</tr>
<tr>
<td>732</td>
<td>INTEGRATED BIOCHEMICAL COLLOQUIUM</td>
<td>1</td>
<td>(May be repeated)</td>
<td>Prerequisite: Permission. Seminar of original research from a broad range of bioscience-related disciplines.</td>
</tr>
<tr>
<td>899</td>
<td>DOCTORAL DISSERTATION</td>
<td>1-12</td>
<td></td>
<td>Original research by the doctoral student.</td>
</tr>
</tbody>
</table>

**BIOLOGY/NEUROCOM 3110:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>630</td>
<td>HUMAN GROSS ANATOMY I</td>
<td>2</td>
<td>Prerequisites: graduate standing and permission.</td>
<td>An intensive survey of human macromorphology.</td>
</tr>
<tr>
<td>631</td>
<td>HUMAN GROSS ANATOMY II</td>
<td>3</td>
<td>Prerequisites: graduate standing and permission.</td>
<td>An intensive survey of human macromorphology.</td>
</tr>
<tr>
<td>695</td>
<td>SPECIAL TOPICS: BIOLOGY/NEUROCOM</td>
<td>1-6</td>
<td></td>
<td>Prerequisite: permission of instructor. Advanced topics in medical education covering areas not otherwise available. May be repeated in topic.</td>
</tr>
</tbody>
</table>

**CHEMISTRY 3150:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>BIOCHEMISTRY LECTURE I</td>
<td>3</td>
<td></td>
<td>Prerequisite: Graduate standing or permission of department. Biochemistry of amino acids, carboxydrates, lipids, and nucleic acids. Structure/function relations. Enzymes as catalysts: kinetics and regulation. Collectors.</td>
</tr>
<tr>
<td>502</td>
<td>BIOCHEMISTRY LECTURE II</td>
<td>3</td>
<td>Prerequisite: 501 or permission of instructor.</td>
<td>Overview of metabolism: thermodynamics; carbohydrate, fatty acid, amino acid, and nucleoside anabolism and catabolism; hormonal control of metabolism. Photolysis.</td>
</tr>
<tr>
<td>522</td>
<td>ADVANCED INORGANIC CHEMISTRY</td>
<td>3</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>Concepts of atomic structure integrated with the systematic classification of elements. Periodic table, chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.</td>
</tr>
<tr>
<td>590</td>
<td>WORKSHOP IN CHEMISTRY</td>
<td>1-2</td>
<td>(May be repeated)</td>
<td>Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.</td>
</tr>
<tr>
<td>592</td>
<td>SPECIAL TOPICS: CHEMICAL EDUCATION</td>
<td>1-3</td>
<td></td>
<td>May be repeated up to 6 credits. Consideration of topics in chemical education.</td>
</tr>
<tr>
<td>603</td>
<td>BIOCHEMISTRY LECTURE III</td>
<td>3</td>
<td>Prerequisites: 501 and 502, graduate status or permission of department. DNA, RNA and protein metabolism. Translation and transcription. Gene function and expression.</td>
<td></td>
</tr>
<tr>
<td>610</td>
<td>BASIC QUANTUM CHEMISTRY</td>
<td>3</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>Quantum mechanics with applications to molecular systems. Includes angular momentum, molecular Hamiltonians, variation and perturbation methods and molecular orbital theory.</td>
</tr>
<tr>
<td>611</td>
<td>SPECTROSCOPY</td>
<td>3</td>
<td>Prerequisite: 610, graduate status or permission of department. Intersection of light with matter: linear and nonlinear spectroscopy. Rotational, vibrational and electronic spectroscopy. Radiationless transitions and photochemistry.</td>
<td></td>
</tr>
<tr>
<td>619</td>
<td>TRANSITION-METAL ORGANOMETALLICS</td>
<td>3</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>The organometallic chemistry of the transition metal elements. Topics covered include synthesis, characterization methods, bonding, reactivity, structure, and application.</td>
</tr>
<tr>
<td>620</td>
<td>MAIN GROUP ORGANOMETALLICS</td>
<td>3</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>The organometallic chemistry of main group elements. Topics covered include synthesis, characterization methods, bonding, reactivity, and applications.</td>
</tr>
<tr>
<td>621</td>
<td>ADVANCED PREPARATIONS</td>
<td>1-2</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>Methods for preparing and purifying organic and inorganic compounds. Laboratory.</td>
</tr>
<tr>
<td>625</td>
<td>CHEMISTRY SEMINAR</td>
<td>1</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>Lectures on current research topics in chemistry by invited speakers.</td>
</tr>
<tr>
<td>629</td>
<td>PHYSICAL INORGANIC CHEMISTRY</td>
<td>3</td>
<td></td>
<td>Prerequisites: Graduate status or permission of department. Detailed treatment of chemical bonding and electronic spectra.</td>
</tr>
<tr>
<td>630</td>
<td>THEORETICAL INORGANIC CHEMISTRY</td>
<td>2</td>
<td>Prerequisites: 629, graduate status or permission of department.</td>
<td>Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanism, electronic spectra, molecular orbital theory.</td>
</tr>
<tr>
<td>631</td>
<td>METALS IN MEDICINE</td>
<td>3</td>
<td>Prerequisite: 610, graduate status or permission of department.</td>
<td>This course will cover the synthesis and development of metal based medicines including the tumor drug cisplatin, technetium-99m based imaging agents and silver antimicrobials.</td>
</tr>
<tr>
<td>635</td>
<td>THERMODYNAMICS AND STATISTICAL THERMODYNAMICS</td>
<td>3</td>
<td></td>
<td>Prerequisites: Graduate status or permission of department. Rigorous treatment of laws of thermodynamics and their applications to selected chemical systems. Fundamentals of statistical thermodynamics and applications to systems in chemical equilibrium.</td>
</tr>
<tr>
<td>636</td>
<td>CHEMICAL KINETICS</td>
<td>3</td>
<td>Prerequisite: 635, graduate status or permission of department.</td>
<td>Phenomenological kinetics, experimental methods of investigation and analysis of reaction systems. Theoretical treatments of reaction rates.</td>
</tr>
<tr>
<td>639</td>
<td>DESCRIPTIVE INORGANIC CHEMISTRY</td>
<td>3</td>
<td></td>
<td>Prerequisite: Graduate status or permission of department. The synthesis, characterization, structure, bonding, and reactivity of inorganic compounds. Emphasis is placed on applications and examples from the recent literature.</td>
</tr>
<tr>
<td>640</td>
<td>CHEMICAL SEPARATIONS</td>
<td>3</td>
<td></td>
<td>Prerequisites: Graduate status or permission of department. General theory, instrumentation and application of methods of separation. Emphasis on modern chromatographic techniques and recent advances.</td>
</tr>
<tr>
<td>641</td>
<td>SPECTRAL METHODS</td>
<td>3</td>
<td></td>
<td>Prerequisites: Graduate status or permission of department. Theory and application of instrumental measurements. Interpretation of data.</td>
</tr>
<tr>
<td>645</td>
<td>X-RAY CRYSTALLOGRAPHY</td>
<td>3</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>670</td>
<td>SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS</td>
<td>3</td>
<td></td>
<td>Prerequisites: Graduate status or permission of department. Determination of structure of organic compounds by spectroscopic analysis: ORD, UV, VIS spectroscopy, IR, NMR, mass spectrometry, FT-NMR spectroscopy, 2D-NMR.</td>
</tr>
<tr>
<td>679</td>
<td>INORGANIC POLYMERS</td>
<td>3</td>
<td>Prerequisites: 672 or permission of instructor.</td>
<td>Structure, synthesis, bonding, characterization, and applications of polylactones, polylactones, polylactones, polycarboxyls, poly(butylenes), and polyglycolic acid. Coordination polymers, and related materials.</td>
</tr>
<tr>
<td>683</td>
<td>MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY I</td>
<td>3</td>
<td></td>
<td>Prerequisites: Graduate status or permission of department. Introduction to the structural and mechanistic aspects of organic reactions: HMO calculations, acids and bases, equilibrium, kinetcs, linear free energy relationships, reactive intermediates, reaction mechanisms.</td>
</tr>
<tr>
<td>684</td>
<td>MECHANISTIC AND SYNTHETIC ORGANIC CHEMISTRY II</td>
<td>3</td>
<td></td>
<td>Prerequisites: 665, graduate status or permission of department. Synthetic organic chemistry from a mechanistic perspective: nuclearic and electrophilic substitution and addition reactions, carbonyl chemistry, functional group manipulations, oxidations, reductions, cycladdition reactions.</td>
</tr>
<tr>
<td>699</td>
<td>MASTER'S THESIS</td>
<td>1-6</td>
<td>Prerequisite: Graduate status or permission of department.</td>
<td>For properly qualified candidates for master's degree. Supervised original research in analytical, inorganic, organic, physical or biochemistry.</td>
</tr>
<tr>
<td>710</td>
<td>SPECIAL TOPICS: ANALYTICAL CHEMISTRY</td>
<td>1-3</td>
<td>(May be repeated)</td>
<td>Prerequisite: Graduate status or permission of department. Concepts of atomic structure integrated with the systematic classification of elements. Periodic table, Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.</td>
</tr>
<tr>
<td>711</td>
<td>SPECIAL TOPICS: INORGANIC CHEMISTRY</td>
<td>1-3</td>
<td>(May be repeated)</td>
<td>Prerequisite: Graduate status or permission of department. Consideration of solid state and inorganic chemistry such as coordination compounds, chemistry of the solid state, representative elements, nonaquoic solvents, organometallic compounds, nonorganoic catalysis.</td>
</tr>
<tr>
<td>712</td>
<td>SPECIAL TOPICS: ORGANIC CHEMISTRY</td>
<td>1-3</td>
<td>(May be repeated)</td>
<td>Prerequisite: Graduate status or permission of department. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, photochemistry.</td>
</tr>
<tr>
<td>713</td>
<td>SPECIAL TOPICS: PHYSICAL CHEMISTRY</td>
<td>1-3</td>
<td>(May be repeated)</td>
<td>Prerequisite: Graduate status or permission of department. Subject from modern physical chemistry.</td>
</tr>
<tr>
<td>715</td>
<td>SPECIAL TOPICS: BIOCHEMISTRY</td>
<td>1-3</td>
<td>(May be repeated)</td>
<td>Prerequisite: Graduate status or permission of department. Recent developments in areas of biochemistry.</td>
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</table>
ARCHAEOLOGY

500 ARCHAEOLOGICAL THEORY
Prerequisite: Permission. Advanced seminar covering history of scientific archaeological exploration, major theoretical paradigms, and current trends in archaeology. Required for Certificate in Field Archaeology.

510 ARCHAEOGEOGRAPHY SURVEY
Prerequisite: Permission. Advanced instruction in principles of subsurface geophysical survey techniques and archaeological emphasis on magnetic gradiometry and electrical resistivity techniques. Includes both laboratory and fieldwork.

520 ARCHAEOLOGY OF OHIO
Prerequisite: Permission. Provides detailed overview of Ohio's prehistoric cultures and the Early and Middle Archaic periods.

540 ARCHAEOLOGICAL LABORATORY METHODS
Prerequisite: Laboratory-based course teaching essentials of artifact documenta
tion, handling, and analysis. Focus on documentation, statistics, conservation, illustration, lithics, ceramics, paleofaunal, paleobotanical remains and soils.

590 SPECIAL TOPICS IN ARCHAEOLOGY
Prerequisite: Permission. Designed to meet the needs of students with interests in selected topics in archaeology. Offered irregularly when resources and opportunities permit. May include archaeological field schools, dissertation research or advanced course work not presently offered by a department on a regular basis.

CLASSICS

501 EGYPTOLOGY I
The history and antiquities of ancient Egypt.

504 ASSYRIOLGY
(May be repeated for credit with another cuneiform language) Prerequisite: permission of instructor. The Akkadian language.

590 WORKSHOP IN CLASSICS
(May be repeated with change in topic) Group studies of special topics in Classics. Cannot be used to fulfill undergraduate major requirements in Classics; for elective credit only.

592 READING AND RESEARCH IN THE ANCIENT NEAR EAST
Prerequisite: permission of instructor. Advanced work in various aspects of Ancient Near Eastern Studies (Archaeology, Assyriology, Egyptology, etc.).

ANTHROPOLOGY

510 EVOLUTION AND HUMAN BEHAVIOR
Prerequisite: Permission. Critical examination of the theory of natural selection and its useful
ess for understanding the origins and evolution of human and modern human social behavior.

516 ANTHROPOLOGY OF SEX AND GENDER
Prerequisite: Permission. This course explores cross-cultural variation regarding sex, gender, and sexuality. It examines the ways that cultures create, maintain, and reproduce gender concepts and gender relations.

520 THE ANTHROPOLOGY OF FOOD
Prerequisite: Permission. Emphasizes anthropological approaches and theories, this course explores the social relations and cultural beliefs associated with food cross-culturally.

555 CULTURE AND PERSONALITY
Prerequisite: Permission. The examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.

557 MEDICAL ANTHROPOLOGY
Prerequisite: Permission of instructor. Analyzes various aspects of Western and non-Western medical systems from an anthropological perspective. Compares traditional medical systems around the world.

560 QUALITATIVE METHODS: BASIS OF ANTHROPOLOGICAL RESEARCH
Prerequisite: Permission. Provides handout, reading list and method in qualitative methods, includ
ing key informant interviewing, focus groups and other methods. Includes the use of computer-based programs for rapid appraisal strategies.

563 SOCIAL ANTHROPOLOGY
Prerequisite: Permission. Comparative structural analysis of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households and other kinship groupings. Lecture.

572 SPECIAL TOPICS: ANTHROPOLOGY
(May be repeated) Prerequisite: Permission. Designed to meet needs of student with inter
est in special topics in anthropology. Offered irregularly when resources and opportunities permit. May include archaeological field school, laboratory research or advanced course work not normally offered by department on a regular basis.

584 WORKSHOP IN ANTHROPOLOGY
(May be repeated) Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit.

651 SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS

697 INDIVIDUAL INVESTIGATION
Prerequisite: permission of instructor and chair of department. Intensive reading and/or research in student's chosen field of interest. Regular conferences with instructor. Preparation of a research paper.

698 INDEPENDENT STUDY
Prerequisite: permission of instructor and chair of department. Intensive study of a field of research not normally offered at the undergraduate level. Limited to 3 credits. Requirements are as for 590.

ECONOMICS

506 STATE AND LOCAL PUBLIC FINANCE
Prerequisite: Admission to the master's program in Economics or permission. Examination of state and local government finance and fiscal policy. May be repeated.

523 APPLIED GAME THEORY
Prerequisite: Admission to the master's program in Economics or permission. Application of basic concepts of game theory (analysis of strategic behavior) to relevant economic issues including bargaining, cartels, voting, conflict resolution, and non-competitive pricing.

524 ECONOMIC FORECASTING
Prerequisite: Admission to the master's program in Economics or permission. Study of meth
ds for building, identifying, fitting, and checking dynamic economic models and the use of these models for forecasting. Emphasis is on the application of available computer software systems.

530 LABOR MARKET AND SOCIAL POLICY
Prerequisite: Admission to the master's program in Economics or permission. Intensive study of current and labor social policy issues (e.g. discrimination, poverty, migration, educa
tion, demographic and labor market changes, impact of international trade on employment).

532 LABOR MARKET ANALYSIS AND EVALUATION
Prerequisite: Admission to the master's program in Economics or permission. Application of labor market research using specialized techniques. Employment, health, education, and other curent issues and programs analyzed and evaluated. Original research projects required.

536 HEALTH ECONOMICS
Prerequisite: permission of instructor. Economic analysis of health care. Stresses health policy issues, includes study of demand and supply of medical services and insurance, analysis of health care industries.

538 ECONOMICS OF SPORTS
Prerequisite: permission of instructor. Sports franchises as profit maximizing firms; costs and benefits of a franchise to a city; labor markets in professional sports; the economics of college sports.

540 SPECIAL TOPICS: ECONOMICS
Prerequisite: permission of instructor. Opportunity to study special topics and current issues in economics.

546 ECONOMICS OF DEVELOPING COUNTRIES
Prerequisite: Admission to the master's program in Economics or permission. Basic problems of economic development. Focus on economic development, issues of political economy and institutions. Topics include poverty, population, migration, employment, finance, interna
tional trade, environment.

551 PRINCIPLES OF INTERNATIONAL ECONOMICS
Prerequisite: Admission to the master's program in Economics or permission. International trade and foreign exchange, policies of free and controlled trade, international monetary problems.

575 DEVELOPMENT OF ECONOMIC THOUGHT
Prerequisite: Admission to the master's program in Economics or permission. Evolution of economic thought. Development of economic theory from its classical origins to its contemporary form.

581 MONETARY AND BANKING POLICY
Prerequisite: Admission to the master's program in Economics or permission. Evolution of monetary and banking policy. Theories of money supply, interest rate determination, monetary and fiscal policy.

587 URBAN ECONOMICS: THEORY AND POLICY
Prerequisite: Admission to the master's program in Economics or permission. Analysis of urban issues from an economic perspective. Emphasis on urban growth, land-use patterns, housing, income distribution, poverty and urban fiscal policy.

591 WORKSHOP IN ECONOMICS
(May be repeated) Group studies of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit.

600 FOUNDATIONS OF ECONOMIC ANALYSIS
Prerequisite: graduate standing. Determination of national income, employment and price level, aggregate consumption, investment and asset holding; decision problems faced by household and firm. Partial equilibrium and analysis of competition and monopoly and gener
al equilibrium analysis. May not be substituted for 602, 603, 681, or applied toward the 30 graduate credits required for the Ph.D.

602 MACROECONOMIC ANALYSIS I
Construction of static macroeconomic models. Analysis predominantly in terms of comparar
tive statics and comparative dynamics.

604 ECONOMICS OF THE PUBLIC SECTOR
Examination of public sector economics emphasizes public revenues, public expenditures, development objectives of taxation, welfare aspects of the public sector, theory of public goods. Considers specific taxes, cost-benefit analysis, expenditures analysis, fiscal federalism.

610 FRAMEWORK OF ECONOMIC ANALYSIS
Prerequisite: graduate standing. Development of theoretical and analytical framework for deci
dion making. Discussion of applications of the framework to situations concerning demand, cost, supply, production, price, employment and wage.

611 MICROECONOMIC THEORY I
Prerequisite: Modern theory of consumer behavior and of the firm. Determination of market prices, Opti
mization models, establishment of criteria for productive, allocative and distributive efficiency.
549 AMERICAN FICTION: REALISM AND NATURALISM 3 credits
Examination of American writers of realistic and naturalistic fiction (e.g., Howells, James, Crane, Dreiser), tracing developments in American fiction against background of cultural and historical change.

550 MODERN AMERICAN FICTION 3 credits
Study of significant American short and long fiction from World War I to the present.

551 AMERICAN WOMEN POETS 3 credits
Study of modern poets and revisions of tradition, women’s relationships, conceptions of art and of the artist-as-woman, and the debate between “public” and “private” poetry.

552 THOREAU, EMERSON, AND THEIR CIRCLE 3 credits
A study of work and life of Henry David Thoreau, Ralph Waldo Emerson, and other key figures of the American Renaissance.

553 FILM AND LITERATURE 3 credits
Analysis of literary texts and their film adaptations. Emphasis on genre, structure, and visual elements as counterparts to written texts.

554 MODERN EUROPEAN FICTION 3 credits
Representative European fiction from about 1850 to present, in translation. Focus on fiction of such writers as Zola, Tolstoy, Dostoevsky, Mann, Proust, Kafka and Sartre thus.

555 INTERNATIONAL POETRY 3 credits
This survey of world poetry focuses on the stylistic concerns and social consequences of literature from Latin America, Asia, Africa, Europe, and beyond.

556 EROS AND LOVE IN EARLY WESTERN LITERATURE 3 credits
An analysis of sex and love in the western literature from Greco-Roman times to 1800. Emphasizes allegorical, satiric, fantastic or realistic uses of sexuality and “romantic” love.

557 HISTORY OF ENGLISH LANGUAGE 3 credits
Development of English language, from its beginnings: sources of its vocabulary, its sounds, its rules; semantic change; political and social influences on changes; dialects; origins; correctness.

558 U.S. DIALECTS: BLACK AND WHITE 3 credits
Students will examine in practice their own vocabulary and grammar among U.S. language varieties. Origins, regional and social dimensions are explored. Correctness, focusing on black English and Appalachian speech, explored.

559 SYNTAX 3 credits
Principles of syntactic description. Sentence structures are investigated from a variety of languages, with emphasis on English.

560 SEMINAR IN TEACHING ESL: THEORY AND METHOD 3 credits
Theoretical issues in linguistic description and language acquisition as relevant to learning of a second language. Elaboration of principles for the teaching of English as a second language based on research in linguistics, psycholinguistics and second language pedagogy.

561 AFRICAN AMERICAN ENGLISH 3 credits
African American English grammatical structure, pronunciations, origins and cultural role. Comparisons with academic English. Discussion of language correctness, legal status and role in education.

562 THEORY OF RHETORIC 3 credits
Ancient and modern theories of rhetoric with attention to classical oration, “topics” of rhetoric and their application to teaching of English.

563 MANAGEMENT REPORTS 3 credits
Study of principles and writing practice in effective business style, specialized structure, and purpose for business reports.

564 SCIENCE FICTION 3 credits
A study of twentieth-century British and American science fiction, featuring primary forms of the science fiction story and the work of major authors.

565 SEMINAR IN ENGLISH (May be repeated with different topics.) Special studies, and methods of literary research, in selected areas of English and American literature and language.

566 WORKSHOP IN ENGLISH (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.

567 INTERNSHIP IN ENGLISH 1-3 credits
Preliminary: 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.

568 TEACHING COLLEGE COMPOSITION PRACTICUM 3 credits
Preparation of college teaching assistants. 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.)

569 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.

570 SHAKESPEARE’S CONTEMPORARIES IN ENGLISH DRAMA 3 credits
Readings in such playwrights as Lyly, Greene, Marlowe, Jonson, Beaumont, Fletcher, Webster, Middleton and Ford in contemporary writings relevant to theory and practice of drama.

571 MILTON 3 credits
Emphasis on Milton’s major poems and prose works: Paradise Lost, Paradise Regained, Areopagitica. Student becomes acquainted with Milton the man and Milton the artist.

572 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.

573 AUTOBIOGRAPHY AS LITERATURE 3 credits
This course examines the genre of autobiography and memoir. A wide representation of autobiographies will be the focus of discussion and analysis.

574 AUTOBIOGRAPHICAL WRITING 3 credits
Using a workshop format, this course examines autobiographical essays written by class members. Attention will also be given to the art and craft of writing autobiography.

575 KEATS AND HIS CONTEMPORARIES 3 credits
Writings of John Keats, studied against background of romantic poetic theory and poetry of Keats’ contemporaries.

576 LITERATURE OF THE 1930s 3 credits
A study of 1930s American literature in its social context, using recent critical theory to examine relationships between history and literature.

577 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 2 credits
Substantial readings from each author: tales, novels, essays, letters, poetry. Also, representa-
tive literary criticism about each author.

646 WHITMAN AND DICKINSON 2 credits
Students study the work of Walt Whitman, Emily Dickinson, and the appropriate recent schol-
arship. Students conduct, write about, and present their own scholarly research.

650 THE NEW RHETRICS 2 credits
This seminar examines the impact of rhetorical theory on the study and teaching of writing. We
will study works from classical, modern, and postmodern rhetoricians.

651 THE PRAGMATICISTS 2 credits
This seminar explores the pragmatic roots of composition studies - the "tact traditions" inculding classical expressionism, and criticisms of that movement.

660 CULTURAL STUDIES: THEORY AND PRACTICE 2 credits
Introduces a framework in which to analyze and project.

661 INTRODUCTION TO DEMOGRAPHICS 2 credits
Introduction to the primary analytic techniques for small-area demographic and economic
use legislation.

662 LAND USE PLANNING LAW 3 credits
Acquaint student with past and present approaches to land use control in the United States
and examine the political, economic, social and legal forces which have shaped existing land-
use legislation.

665 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 2 credits
Introductions to 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.

672 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
Review of current research and exploration of specific instructional methods for teaching basic
composition.

677 SCIENCE WRITING 3 credits
Study of principles and writing practice for effective communication in the physical or social
sciences, including purpose, audience, specialized document structure, and oral presenta-
tions.

678 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 3 credits
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.

689 SEMINAR IN ENGLISH 2 credits
(May be repeated with change of topic) 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, abstracting of scholarly
material and bibliographic sources for literary research. Bibliographic exercises done, models
of literary scholarship read.

693 INDIVIDUAL READING IN ENGLISH 3 credits
Individual study under guidance of professor who directs and coordinates student's reading
and research.

695 MASTER'S THESIS 4 credits
Original work in the field of literature and language and completion of graduate student's
required thesis.

GEOGRAPHY AND PLANNING 3350:

505 GEOGRAPHIC INFORMATION SYSTEMS 3 credits
Introduction to the principles and concepts underlying geographic information systems (GIS) and
their application in professional practice and academic research. Laboratory.

507 ADVANCED GEOGRAPHIC INFORMATION SYSTEMS 3 credits
Prerequisite: 505 or permission. Advanced instruction in the theory and application of geo-
graphic information systems (GIS) including hands-on experience with both raster and vector
GIS Laboratory.

509 ARCHAEOGEOPHYSICAL SURVEY 3 credits
Prerequisite: Permission. Advanced instruction in subsurface geophysical survey techniques in
archaeology. Emphasis on magnetic prospection and electrical resistivity techniques, image
processing and geological and archaeological interpretation.

515 ENVIRONMENTAL PLANNING 3 credits
Scientific and 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
Spatial organization of urban systems; interaction between cities; internal structure of cities; Per-
spectives on urban change; contemporary urban geographic problems; urban and regional
planning issues.

522 TRANSPORTATION SYSTEMS PLANNING 3 credits
Study and analysis of transportation systems from a geographic perspective. Emphasis on
transportation problems and issues, elements of transportation planning.

524 MILITARY GEOGRAPHY 3 credits
Influence of physical and human geography on military operations and military history. Role
played by geography in international conflicts.

523 LAND USE PLANNING LAW 3 credits
Acquaint student with past and present approaches to land use control in the United States
and examine the political, economic, social and legal forces which have shaped existing land-
use legislation.

532 PRACTICAL APPROACHES TO PLANNING 3 credits
Role of geographic investigation in city, regional and resource planning.

536 PLANNING ANALYSIS AND PROJECTION METHODS 3 credits
Introduction to the primary analytic techniques for small-area demographic and economic
analysis and projection.
Graduate Courses

GEOLOGY

584 GEOSCIENCE INFORMATION ACQUISITION AND MANAGEMENT
2 credits
Prerequisite: must be a Geology Department graduate student or senior major in Geology, or have permission of instructor. Methods for finding, gathering, managing, and evaluating geological information. Emphasis on finding data sources (including electronic), creating valid data sets, visualizing data.

585 INDIVIDUAL READINGS IN GEOLOGY
1-4 credits
Prerequisite: permission of instructor and advisor required. (May be repeated for a total of 8 credits; credits may not be used to meet degree requirements.) Directed reading to fit individual student programs. Credit/Noncredit.

590 WORKSHOP
1-3 credits
(May be repeated) Group studies of special topics in Geology. May not be used to meet under- or graduate major requirements in geology. May be used for elective credit only.

591 GRADUATE INTERNSHIP IN GEOLOGY
1-3 credits
(May be repeated for a total of six credits) Prerequisite: Permission. Supervised professional experience in geology or geophysics. Only three credits can be used toward a degree in Geology and Environmental Science.

593 GEOLOGY FIELD CAMP I
3 credits
Prerequisites: Admission to the Geology major's program or permission. Introduction to collection and interpretation of field data and construction of geological maps.

594 GEOLOGY FIELD CAMP II
3 credits
Prerequisites: Admission to the Geology major's program or permission. Advanced techniques and methods of field geology necessary for detailed geological maps and interpretation.

631 ROCKS AND MINERALS
4 credits
Prerequisites: Admission to the Geology major's program or permission. Intermediate course integrating crystallography, mineralogy and petrology for the science teacher and graduate student from disciplines other than geology. Laboratory.

639 NUCLEAR GEOLOGY
3 credits
(Two lecture hour, three hour laboratory) Prerequisites: minimum of seven credits in chem-istry, eight credits in physics, eight credits in geology or geophysics, six credits of mathematics. Detailed study of isotopic ages and dating methods. Applications of radioactive minerals, radioactive background and disposal of radioactive wastes. Nuclear analytical techniques will also be discussed; lecture, laboratory and field study.

643 GEOSTATISTICS
3 credits
Prerequisites: Permission to the Geology major'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.

656 GLOBAL TECTONICS
3 credits
Prerequisites: Admission to the Geology major's program or permission. Theoretical study of physical forces involved in formation and deformation of earth's crust with emphasis on plate tectonics and associated diastrophic features.

661 GEOLOGIC RECORD OF PAST GLOBAL CHANGE
3 credits
Prerequisite: study of the course or permission of instructor. Study of the geologic record of past global climate and environmental change from geological, paleontological, sedimentary and other geological evidence.

674 ADVANCED GROUNDWATER HYDROLOGY
3 credits
Prerequisite: Permission to the Geology major'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. Water well and field design. Laboratory and field work.

680 SEMINAR IN GEOLOGY
2 credits
(May be repeated for a total of six credits) Selected topics with reference material from original sources.

684 SELECTED TOPICS IN GEOLOGY
1-3 credits
(May be repeated for a total of eight credits) Prerequisite: permission. Topics not regularly offered as formal courses, generally of classic current interest. Entails lectures, readings, discussions and/or guided laboratory work.

688 GEOLOGY TEACHING PRACTICUM
2 credits
Prerequisite: graduate assistantship. Training and experience in college teaching of geology under supervision of experienced faculty. May be repeated for a maximum of 8 credits. Credits may not be used to meet degree requirements. Credit/Noncredit.

695 ADVANCED FIELD STUDIES
1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission of instructor. Field trip course emphasizing phases of geology not readily studied in Ohio. Includes field preparation, 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
1-8 credits
(May be repeated for a total of six credits) Prerequisite: permission. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor. May be used for elective credit only.

699 MASTER’S THESIS
1-6 credits
Independent and original investigation. Must be successfully completed, report written and defend before a committee.

HISTORY

500 GENDER AND CULTURE IN CHINA
3 credits
Prerequisite: Graduate standing. This course examines the dynamic between gender and culture from late imperial to post-socialist China, with connections drawn to public policies in different eras.

501 JAPAN AND THE PACIFIC WAR, 1895-1945
3 credits
The rise of Japanese militarism, Japan’s drive to create an empire in East and Southeast Asia, 1895-1945, and its role in the Pacific War, 1937-1945.

504 STUDIES IN ROMAN HISTORY
3 credits
Prerequisite: completion of 6 hours of History courses at the 200 or 300 level. Concentrated investigation of selected topics such as imperialism in middle and late Republic, the age of Augustus, or the fall of western Empire.

510 HISTORY AND FILM
3 credits
Examine films as historical experiences, historical events, and artifacts of history. Themes and foci will vary. Repeatable once with permission.

516 MODERN INDIA
3 credits
History of the Indian subcontinent from c.1500 with emphasis on Indian society and culture, British imperialism, and the emergence of Indian nationalism.
517 LATIN AMERICA AND THE UNITED STATES 3 credits
Prerequisite: Graduate status. Inter-American relations viewed from Latin American and US perspectives; foreign policy, imperialism or economic and cultural influences. Historiography of US-Latin American relations examined.

518 HISTORY OF BRAZIL SINCE 1500 3 credits
Survey of the economic, political, social, and cultural history of Brazil since 1500 to the present; the course also examines historiographical debates in Brazilian history.

524 THE RENAISSANCE 3 credits
The age of transition from the Middle Ages to modern times (1350-1600). Special emphasis on intellectual trends, the development of Humanism, and the fine arts.

525 THE REFORMATION 3 credits
Europe in 16th Century; its religious, cultural, political and diplomatic development, with special emphasis on the role of Protestantism and Catholic Reformations.

529 EUROPE IN THE FRENCH REVOLUTIONARY ERA, 1789-1815 3 credits
Development of Napoleon’s regime and satellites.

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 3 credits
An examination of the changes that Britain experienced during the life of Winston Churchill, 1874-1965. Emphasis is on cultural, social, and political developments.

551 COLONIAL AMERICAN HISTORY 3 credits
This course covers the history of colonial America from the first European contact in the Americas in 1492 to the onset of the American Revolution.

552 THE AMERICAN REVOLUTIONARY ERA: POLITICAL, MILITARY, AND CONSTITUTIONAL ASPECTS 3 credits
The struggle for the rights of Englishmen and independence; the impact of war on American society and the creation of republican institutions.

553 THE EARLY AMERICAN REPUBLIC 3 credits
Pre-Revolutionary undergraduate students. The evolution of the American republic from its early beginnings after the American Revolution to the antebellum era. Emphasis upon political, social, and cultural developments.

554 THE CIVIL WAR AND RECONSTRUCTION, 1862-1877 4 credits
Selection and slavery and the causes of the Civil War, wartime activities of the Union and Confederacy; leading personalities; problems of reconstruction and the new Union.

555 THE ORIGINS OF MODERN AMERICAN, 1877-1917 3 credits
United States from Reconstruction Era to World War I (1877-1919); emphasis on political responses to rise of an industrialized urban society, the populist and progressive movements.

556 AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945 3 credits

557 THE UNITED STATES SINCE 1945 3 credits
Nuclear age, cold war, foreign policy and domestic affairs to present. Social, political, constitutional, diplomatic, cultural, and economic changes since 1945.

561 THE UNITED STATES AS A WORLD POWER 3 credits
This course analyzes the emergence and functioning of the United States as a world power, with particular emphasis on the twentieth century.

563 U.S. CONSTITUTIONAL HISTORY SINCE 1877 3 credits
This course will examine the political, social, economic, and intellectual history of the United States as a world power.

565 AMERICAN ECONOMY SINCE 1900 3 credits
Survey of the economic development since 1900; topics include agriculture, business, labor and leisure. Special emphasis on role of big business and evolution of monetary and fiscal policy.

566 HISTORY OF AMERICAN POP CULTURE 3 credits
Historical analysis of mass cultural phenomena and the social experiences associated with mass media that transformed modern American life in the nineteenth and twentieth centuries.

569 AFRICAN-AMERICAN SOCIAL AND INTELLECTUAL HISTORY 3 credits
Examination of black thought and activities reflective of African-American culture, conditions facing black people within America and efforts toward coordinated black activity.

570 OHIO HISTORY 3 credits
Social, political, economic, and intellectual history of Ohio, with special emphasis on its relationship to Old Northwest and to the nation.

571 AMERICAN ENVIRONMENTAL HISTORY 3 credits
Utilization, conservation of natural resources from beginnings of American society to present; combination of economic, technological history of extensive treatment of public policy, environment and natural resources issues.

575 MEXICO 3 credits
History of Mexico from Indian civilizations to present with emphasis on relations with United States, social and political ramifications of the 20th Century Mexican revolution.

576 CENTRAL AMERICA AND THE CARIBBEAN 3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on population and peasant movements, political reform, social revolution, economic underdevelopment, and relations with the United States.

582 WAR AND WESTERN CIVILIZATION 3 credits
War and society in Europe, America and beyond from ancient world to present with special emphasis on period since 1600.

584 HISTORY MUSEUMS AND ARCHIVES 3 credits
This course will focus on the history of history museums, historical societies and 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 various 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.

592 OTTOMAN STATE AND SOCIETY 3 credits
Explores political, economic, and social dynamics of one of the world’s most enduring and expansive multiethnic empires.
MA1 HISTORY OF MATHEMATICS
Prerequisite: Departmental permission. Origin and development of mathematical ideas. Course does not meet degree requirements in the department.
3 credits

MA2 ADVANCED LINEAR ALGEBRA
Prerequisite: Departmental permission. Study of vector spaces, linear transformation, canonical and orthonormal forms, inner product spaces.
3 credits

MA3 ABSTRACT ALGEBRA I
Prerequisite: Departmental permission. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.
3 credits

MA4 ABSTRACT ALGEBRA II
Prerequisite: MA5 or departmental permission. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.
3 credits

MA5 THEORY OF NUMBERS
Prerequisite: Departmental permission. Euclidean algorithm, unique factorization, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.
3 credits

MA6 COMBINATORICS AND GRAPH THEORY
Prerequisite: Departmental permission. Introduction to basic ideas and techniques of mathematics concerning properties of sets and systems.
3 credits

MA7 MATHEMATICAL TECHNOLOGY AND COMMUNICATION
Prerequisite: Departmental permission. Graphical, numerical, and algebraic computation with applications using a variety of mathematical software, programs, scripts and web browsers.
3 credits

52.1,2 ADVANCED CALCULUS I AND II
Prerequisite: MA1. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.
3 credits each

MA9 COMPLEX VARIABLES
Prerequisite: Departmental permission. Complex variables; elementary functions; differentiation and analytic functions; integration and Cauchy’s theorem; power series; Laurent series; residue theorem; applications such as conformal mappings, inversion of integral transform.
3 credits

MA10 APPLIED NUMERICAL METHODS I
Prerequisite: Departmental permission. Numerical methods in polynomial interpolation, rootfinding, numerical integration, and numerical linear algebra.
3 credits

MA11 APPLIED NUMERICAL METHODS II
3 credits

MA12 NUMERICAL SOLUTIONS FOR ORDINARY DIFFERENTIAL EQUATIONS
Prerequisite: MA7 or departmental permission. Mathematical analysis of numerical methods for solving ordinary differential equations, Runge-Kutta and linear multistep methods for initial value problems, Shooting and difference methods for boundary value problem.
3 credits

MA13 NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: MA7 or departmental permission. For advanced undergraduate and graduate students. The study of finite difference and finite element methods for partial differential equations – consistency, stability, convergence and computer implementation.
3 credits

MA14 PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: Departmental permission. The classical initial-value and boundary-value problems of mathematical physics developed and solved using Fourier series and integral transforms.
4 credits

MA15 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS
Prerequisite: Departmental permission. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.
3 credits

MA16 MATHEMATICAL MODELS
Prerequisite: Departmental permission. Formulation and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include decision processes, linear programming, graph theory, theory of measurement and decision, stochastic processes, Markov chains, queuing theory, reliability, decision making, and inventory.
2 credits

MA17 ADVANCED ENGINEERING MATHEMATICS I
Prerequisite: Departmental permission. Matrices, eigenvalue problems, systems of ODEs, vector analysis, complex variables.
3 credits

MA18 ADVANCED ENGINEERING MATHEMATICS II
Prerequisite: Departmental permission. Special functions, Fourier series and transforms, PDEs.
3 credits

MA19 CONCEPTS IN GEOMETRY
Prerequisite: Departmental permission. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions, and inversions.
4 credits

MA20 INTRODUCTION TO TOPOLOGY
Prerequisite: Departmental permission. Introduction to topological spaces and topologies, mapping, cardinality, homeomorphisms, connected spaces, metric spaces.
3 credits

MA21 TOPICS IN MATHEMATICS
Prerequisite: Departmental permission. Introduction to topological spaces and topologies, mapping, cardinality, homeomorphisms, connected spaces, metric spaces. (May be repeated for a total of 12 credits)
3 credits

MA22 WORKSHOP IN MATHEMATICS
Prerequisite: Departmental permission. Introduction to topological spaces and topologies, mapping, cardinality, homeomorphisms, connected spaces, metric spaces. (May be repeated for a total of 12 credits)
3 credits

611 TOPICS IN ALGEBRA
Prerequisite: MA5 or departmental permission. Advanced study of selected topics in some of the following areas: semigroups, groups, rings, modules and fields.
3 credits

621 REAL ANALYSIS
Prerequisite: MA5 or departmental permission. In-depth study of real analysis – metric spaces, normed vector spaces, integration theory, Hilbert spaces.
3 credits

622 MEASURE THEORY
Prerequisite: MA5 or departmental permission. Measure, measurable function, Lebesque integral, convergence theorems, Lp spaces, Radon-Nikodim theorem.
3 credits

625 ANALYTIC FUNCTION THEORY
Prerequisite: MA5 or departmental permission. Complex number system, holomorphic functions, continuity, differentiability, power series complex integral, residue theory, singularities, analytic continuation, asymptotic expansion.
3 credits

627 ADVANCED NUMERICAL ANALYSIS I
Prerequisite: MA5 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Error propagation; theoretical analysis of numerical methods in interpolation, integration, and ordinary differential equations.
3 credits

628 ADVANCED NUMERICAL ANALYSIS II
Prerequisite: MA5 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Theoretical analysis of numerical methods in linear algebra.
3 credits

631 CALCULUS OF VARIATIONS
Prerequisite: Departmental permission. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, the maximality principle, linear time-optimal problems, the connective between classical theory and the maximality principle.
3 credits

632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: MA5 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.
3 credits

633 METHODS OF APPLIED MATHEMATICS I AND II
Prerequisite: MA5 or departmental permission. Methods of applied mathematics concentrating on techniques for solutions of differential and integral equations – applied complex analysis, integral equations, partial differential equations, and integral equations.
3 credits

635 OPTIMIZATION
Prerequisite: MA5 or departmental permission. Unconstrained and constrained optimization theory and methods in applied mathematics.
3 credits

636 ADVANCED COMBINATORICS AND GRAPH THEORY
Prerequisite: Departmental permission. Theory and techniques of combinatorics as applied to problems in networks and graph theory problems.
3 credits

638 THEORY AND APPLICATION OF WAVELETS
Prerequisite: Departmental permission. Theory of wavelets and applications to signal and image analysis. Topics include time-frequency representations, filter bands, discrete and continuous wavelet transforms, wavelet packets, and applications.
3 credits

689 ADVANCED TOPICS IN MATHEMATICS
May be repeated for a total of six credits. Prerequisite: permission of advisor. Seminar-type discussion on topics in mathematics leading to supervised research project. No more than 2 credits apply to major requirements.
1-3 credits

692 SEMINAR IN MATHEMATICS
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.
1-3 credits

695 PRACTICUM IN MATHEMATICS
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.
1-3 credits

697 INDIVIDUAL READING
May be repeated for a total of four credits. Prerequisite: departmental permission. Directed studies in mathematics at graduate level under guidance of selected faculty member.
1-2 credits

698 MASTER’S RESEARCH
May be repeated. Prerequisite: permission of advisor. Research in suitable topics in mathematics or applied mathematics culminating in a research paper. No more than 2 credits applicable to major requirements.
1-6 credits

699 MASTER’S THESIS
May be repeated for a total of four credits. Prerequisite: permission of advisor. Properly qualified candidate for master’s degree may obtain four credits for research experience which culminates in presentation of faculty-supervised thesis.
2 credits

721,2 FUNCTIONAL ANALYSIS I AND II
Prerequisite: MA5 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.
3 credits each

728 MATRIX ITERATIVE ANALYSIS
3 credits

730 ADVANCED NUMERICAL SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS
Prerequisites: MA5 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Derivation, analysis, and implementation of different numerical methods for the solution of partial differential equations and systems of differential equations.
3 credits

732 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS II
Prerequisites: MA5 and knowledge of C++, FORTRAN, or MATLAB 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.
3 credits

733,4 ASYMPTOTIC METHODS AND NONLINEAR ANALYSIS I AND II
Prerequisites: MA5 or departmental permission. Analysis of perturbation problems, asymptotic analysis of perturbation problems. (May be repeated for a total of 6 credits)
3-4 credits each

735 DYNAMICAL SYSTEMS
Prerequisite: MA5 or departmental permission. The study of mathematical models of systems which evolve over time. An introduction to maps and applications to ordinary differential equations.
2 credits

501 FUNDAMENTALS OF DATA STRUCTURES
Prerequisite: programming experience in C. Basic data structures and algorithms: stacks, queues, linked lists, trees, hash tables, and graphs, searching and sorting algorithms. Introduction to data abstraction and algorithm analysis. (May not be used to meet computer science requirements)
3 credits

692 SEMINAR IN MATHEMATICS
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.
1-3 credits
506 INTRODUCTION TO C AND UNIX
Prerequisite: Programming experience. C language programming. UNIX shell programming, file structure, system call and interprocess communication. (May not be used to meet computer science requirements)
3 credits

508 WINDOWS PROGRAMMING
Prerequisite: Admission to Computer Science master's program or permission. Windows operating systems, installation, development environment. Introduction to graphical user interface design, using object libraries, component object model, object linking and embedding, client-server technology and maintenance.
3 credits

510 INTRODUCTION TO DISCRETE STRUCTURES
Prerequisite: Admission to Computer Science master's program or permission. Introduction to discrete structures of particular use in computer science. Topics include algorithm analysis, flow chart language, graphs and digraphs, trees, lattices codes. (May not be used to meet computer science master's degree requirements)
3 credits

521 INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING
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.
3 credits

526 OPERATING SYSTEMS
Prerequisites: Admission to Computer Science master's program or permission. Introduction to various types of operating systems: batch processing systems, multiprogramming systems, and operating systems: storage management; process and resource control; deadlock problem. Course is independent of any particular operating system. (May not be used to meet computer science master's degree requirements)
3 credits

528 UNIX SYSTEM PROGRAMMING
Prerequisites: Admission to Computer Science master's program or permission. An overview of the UNIX operating system: Shell programming. Process management, processor management, storage management, scheduling algorithms, resource protection, and system programs. (May not be used to meet computer science master's degree requirements)
3 credits

530 THEORY OF PROGRAMMING LANGUAGES
Prerequisite: Admission to Computer Science master's program or permission. Advanced concepts underlying programming languages and their applications, formal definitions of programming languages, Backus-Naur Form, semantics. Alternative programming paradigms including functional programming. (May not be used to meet computer science master's degree requirements)
3 credits

535 ANALYSIS OF ALGORITHMS
Prerequisite: Admission to Computer Science master's program or permission. Design and analysis of efficient algorithms for random access machines. derivation of pattern classification algorithms.
3 credits

540 COMPILER DESIGN
Prerequisite: Admission to Computer Science master's program or permission. Techniques used in writing and modifying compilers including translation, loading, execution, symbol tables and storage allocation; compilation of simple expressions and statements. Organization of a compiler for handling high-level, syntax scan, object code generation, error diagnosis; code optimization. Use of compiler writing languages and boot-straping. The course project involves a complete compiler.
3 credits

545 INTRODUCTION TO BIOINFORMATICS
Prerequisites: Admission to Computer Science master's program or permission. Introduction to major themes in bioinformatics. Topics include concepts of molecular genetics, biological databases, protein sequence alignments, phylogenetic trees, structure prediction, and microarray data analysis.
3 credits

546 INTRODUCTION TO BIOINFORMATICS LABORATORY
Prerequisite: Admission to Computer Science master's program or permission. Co-requisite: S45. Laboratory course investigating basic tools currently available for biological database searching, sequence alignments, phylogenetic tree construction, protein structure prediction, and microarray analysis.
1 credit

553 COMPUTER SECURITY
Prerequisite: Admission to Computer Science master's program or permission. Fundamentals of computer security: cryptography, authentication, secure network protocols, intrusion detection and countermeasure.
3 credits

555 DATA COMMUNICATION AND COMPUTER NETWORKS
Prerequisites: Admission to Computer Science master's program or permission. ISO-OSI, TCP/IP. DATA networking, protocols, flow and error control, routing, topology. Network security, encryption algorithms, and socket-based programming.
3 credits

557 COMPUTER GRAPHICS
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.
3 credits

560 ARTIFICIAL INTELLIGENCE AND HEURISTIC PROGRAMMING
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.
3 credits

563 PERVERSIVE COMPUTING
Prerequisite: Admission to Computer Science master's program or permission. Computing from a wireless perspective. Topics include protocols, algorithms, security and sensor networks.
2 credits

565 COMPUTER ARCHITECTURE
Prerequisite: Admission to Computer Science master's program or permission. An introduction to the hardware organization of the computer at the register, processor and systems level. An investigation of the architecture of a particular parallel computer and systems family. (May not be used to meet computer science master's degree requirements)
3 credits

567 MICROPROCESSOR PROGRAMMING AND INTERFACING
Prerequisites: Admission to Computer Science master's program or permission. Detailed study of particular microprocessor architecture and instruction set. Standard device interface components. Real time programming concepts.
3 credits

568 MOBILE ROBOTICS
Prerequisite: Admission to Computer Science master's program or permission. Introduction to history, hardware and software components, and design of autonomous mobile robots. Multiple robots and software simulation.
3 credits

570 AUTOMATA, COMPUTABILITY AND FORMAL LANGUAGES
Prerequisite: Admission to Computer Science master's program or permission. Presentation of theory of formal languages and their relation to automata. Topics include description of languages by context-sensitive grammars, finite automata, and regular expressions. Deterministic and non-deterministic finite and pushdown automata. Turing machines; closure properties; computational complexity, stack automata and decidability.
3 credits

575 DATABASE MANAGEMENT
Prerequisite: Admission to Computer Science master's program or permission. Fundamentals of database organization, design, manipulation and representation, data integrity, privacy.
3 credits

577 INTRODUCTION TO PARALLEL PROCESSING
Prerequisites: Admission to Computer Science master's program or permission. Commercial parallel processor systems, operating systems, parallel program development environment. Introduction to parallel computing emphasizing on parallel algorithms and program evaluation. Exploration of related implementation and cache design.
3 credits

580 INTRODUCTION TO SOFTWARE ENGINEERING AND FORMAL METHODS
Prerequisites: Admission to Computer Science master's program or permission. Introduction to formal software specification and validation. Introduction of methodologies and tools of design, development, validation, and maintenance.
3 credits

589 TOPICS IN COMPUTER SCIENCE
(May be repeated. Prerequisite: permission of instructor. Selected topics in computer science at an advanced level.
1-3 credits

591 WORKSHOP IN COMPUTER SCIENCE
Group studies of special topics in computer science. (May not be used to meet computer science master's degree requirements)
1-3 credits

597 INDIVIDUAL STUDY IN COMPUTER SCIENCE
(May be repeated. Prerequisite: admission to Computer Science master's program or permission. Advanced topics in a subject of interest to the student including selected readings, research, and independent study.
1-3 credits

626 ADVANCED OPERATING SYSTEMS
Prerequisite: Admission to Computer Science master's program or permission. Advanced topics in operating system design: resource management, performance evaluation, security, distributed operating systems.
3 credits

630 ADVANCED THEORY OF PROGRAMMING LANGUAGES
(May be repeated. Prerequisite: 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.
3 credits

633 ADVANCED ALGORITHMS AND COMPLEXITY THEORY
Prerequisite: Admission to Computer Science master's program or permission. Advanced graph algorithms, matrix multiplication, fast Fourier transforms, lower bound theory, complexity of tractable, NP-complete and intractable problems, approximation techniques.
3 credits

640 ADVANCED COMPILER DESIGN AND CONSTRUCTION
Prerequisite: Admission to Computer Science master's program or permission. Continuation of S45. Study of lexical and UNIX parsing, compiler writing tools and environments. Code optimization, implementation of advanced language features. Major programming project required.
3 credits

641 OPTIMIZATION FOR PARALLEL COMPILERS
Prerequisites: Graduate standing and permission of instructor. Advanced analysis and transformation strategies to support automatic vectorization and parallelization of code, emphasizing restructuring to improve instruction scheduling.
3 credits

655 COMPUTER NETWORKS AND DISTRIBUTED PROCESSING
Prerequisites: Admission to Computer Science master's program or permission. Interconnection of computer systems, protocol layering models, datagram and stream transport services, client-server paradigm, principles and protocols of interconnected networks operating as unified systems. TCP/IP technology.
3 credits

658 VISUALIZATION
Prerequisite: Admission to Computer Science master's program or permission. Visualization pipeline, data representation in visualization, visualization algorithms, object-oriented visualization, scientific visualization, volume visualization, visualization applications and research topics.
3 credits

660 EXPERT SYSTEMS
Prerequisite: Admission to Computer Science master's program or permission. Architecture of expert systems, knowledge representation and acquisition, inference mechanisms for expert systems, expert system shell, expert system tools and applications.
3 credits

665 ADVANCED COMPUTER ARCHITECTURE
Prerequisite: Admission to Computer Science master's program or permission. Fundamentals of computer architecture and design, with emphasis on cost/performance tradeoffs. Studies of superscalar, vector, RISC, and multimedia architectures.
3 credits

670 ADVANCED AUTOMATA AND COMPATIBILITY
Prerequisite: Admission to Computer Science master's program or permission. Advanced topics related to automata theory, complexity theory, Turing machines, and decidability.
3 credits

678 DATABASE DESIGN
Prerequisite: Admission to Computer Science master's program or permission. Study and design of relational databases. Study data warehousing systems and architectures.
3 credits

677 PARALLEL PROCESSING
Prerequisite: Admission to Computer Science master's program or permission. Advanced topics in parallel computing. Parallel architectures, theories of parallel computing, system resources optimization, efficient programming languages and application paradigms, cost-effective computer systems. Classical results and practical insights into implementing parallel algorithms on actual systems.
3 credits

680 SOFTWARE ENGINEERING
Prerequisites: Admission to Computer Science master's program or permission. Introduction to current techniques and methodologies used in software design, development, validation, and maintenance.
3 credits

689 ADVANCED TOPICS IN COMPUTER SCIENCE
(May be repeated. Prerequisite: permission of instructor. At most, six credits may be applied to degree requirements. Selected topics in computer science at an advanced level. (Department consent required for application to computer science master's degree requirements)
1-3 credits

692 SEMINAR IN COMPUTER SCIENCE
May be repeated. Prerequisite: permission of advisor. Seminar-type discussions on topics in computer science. No more than two credits may apply to major requirements.
3 credits

695 PRACTICUM COMPUTER SCIENCE
Prerequisites: Graduate standing and permission of advisor. Seminar-type discussions on topics in computer science at an advanced level.
1-3 credits

697 INDIVIDUAL STUDY IN COMPUTER SCIENCE
(May be repeated. Prerequisite: admission to Computer Science master's program or permission. Advanced topics in a subject of interest to the student including selected readings, research, and independent study. (May be repeated. Can apply to degree, minor or certificate only with department approval) Prerequisite: permission. Directed studies designed as introduction to research problems under guidance of designated faculty member.
1-3 credits

698 MASTER'S RESEARCH
(May be repeated. Prerequisite: permission of advisor. Research in computer science topic culminating in a research paper. No more than three credits may be applied to the minimum degree requirements.
1-6 credits

699 MASTER'S THESIS
Prerequisite: permission of advisor. May be repeated for a total of 15 credits.) A properly qualified candidate for a master's degree may enroll for research experience which culminates in presentation of a faculty-supervised thesis.
1-6 credits
651 PROBABILITY
3 credits
Prerequisite: Appropriate background is one semester of calculus or equivalent. Introduction to probability, random variables and probability distributions, expected value, sums of random variables, Markov processes.

561 THEORETICAL STATISTICS I AND II
3 credits each
Sequential. Prerequisite: Appropriate background is two semesters of calculus or equivalent. Elements of combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, introduction to experimental design.

580 STATISTICAL DATA MANAGEMENT
3 credits
Prerequisite: Appropriate background is two semesters of applied statistics or equivalent. Application of statistical methods to the social sciences including description statistics, probability distributions, statistical inference (parametric, nonparametric), categorical data analysis, linear regression, correlation, computer applications. May not be used to meet Mathematics and Statistics degree requirements.

561 APPLIED STATISTICS
4 credits
Prerequisite: Appropriate background is two semesters of calculus or equivalent. Application of statistical theory to natural and physical sciences and engineering, including probability distribution functions, estimation, hypothesis testing (parametric and nonparametric), and simple linear regression and correlation.

562 APPLIED REGRESSION AND ANOVA
4 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Applications of the techniques of regression and multifactor analysis of variance.

565 DESIGN OF SAMPLE SURVEYS
3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Design and analysis of frequently used sample survey techniques.

569 RELIABILITY MODELS
3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Selection and development of models for reliability modeling including parametric and nonparametric models, competing modes of failure, censored data and accelerated life models.

572 ACTUARIAL SCIENCE I
3 credits
Prerequisite: Appropriate background is two semesters of calculus or equivalent. Study of various statistical, financial, and mathematical calculations used to determine insurance premiums related to contingent risks based on individual risk model frameworks.

573 ACTUARIAL SCIENCE II
3 credits
Prerequisite: 571. Continuation of Actuarial Science I. Study of multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, surrender benefits and dividends.

595 STATISTICAL CONSULTING
1-3 credits
Prerequisite: Appropriate background is one semester of Statistics or equivalent. Course provides a solid foundation in the theory and applications of statistical techniques widely used in industry.

580 STATISTICAL DATA MANAGEMENT
3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Students learn data management skills, design of statistical databases, statistical software application, importing and exporting of data between software, and missing data analysis.

589 TOPICS IN STATISTICS
1-3 credits
Prerequisite: May be repeated for a total of six credits. Prerequisite: permission. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.

591 WORKSHOP IN STATISTICS
1-3 credits
(May be repeated with change of topic) Group studies of special topics in statistics. May not be used to meet undergraduate major or graduate major requirements in mathematics and statistics. May be used for elective credit only.

595 STATISTICAL CONSULTING
1-3 credits
Prerequisite: 589 or permission. Students will be assigned to work with an instructor on consulting and in the Center for Statistical Consulting. May be repeated for a total of 14 credits; however, only 2 credits will count toward major requirements. Does not count for elective credit toward mathematics and statistics major.

650 ADVANCED PROBABILITY AND STOCHASTIC PROCESSES
3 credits
Prerequisite: 651. Random walk, distributions, unlimited sequence of trials, laws of large numbers, convolutions, branching processes, renewal theory, Markov chains, time-dependent stochastic processes.

651 PROBABILITY AND STATISTICS
4 credits
Prerequisite: Appropriate background is three semesters of calculus or equivalent. Probability, random variables, moments and generating functions, random vectors, special distributions, limit theorems, sampling, point estimation, hypothesis testing, confidence estimation.

652 ADVANCED MATHEMATICAL STATISTICS
3 credits
Prerequisite: 651. Central Limit Theorem; theory of estimation; theory of hypothesis testing; the multinormal distribution; introduction to linear models, Bayesian statistics.

655 LINEAR MODELS
3 credits
Prerequisite: Appropriate background is linear algebra or 651 or equivalent. General linear model in matrix notation, general linear hypothesis, regression models, experimental design models, analysis of variance and covariance, variance components.

660 ADVANCED STATISTICAL METHODS
4 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theoretical and practical use of the techniques of regression and multifactor analysis of variance.

661 STATISTICS FOR THE LIFE SCIENCES
3 credits
Prerequisite: college level algebra or equivalent. Data description and presentation, probability distribution functions in the life sciences including sensitivity, specificity, relative risk, principles and application of statistical inference, ANOVA, correlation and regression.

663 EXPERIMENTAL DESIGN
3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Selected topics in experimental design including random and fixed effects, nested designs, split plot designs, confounding, fractional factorials, Latin squares, and analysis of covariance.

664 STATISTICS FOR THE HEALTH SCIENCES
3 credits
(May not be used to meet degree requirements for mathematics sciences majors). Prerequisite: college-level algebra or equivalent. Descriptive statistics, probability and probability distributions, hypothesis testing, confidence intervals, nonparametric statistics, regression and correlation.

665 REGRESSION
3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Correlation, simple and multiple linear regression, least squares, matrix notation, model building and checking estimation, hypothesis testing, outliers, influence, multicollinearity, transformation, categorical regression, logistic regression.

666 NONPARAMETRIC STATISTICS-METHODS
3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theories and practice using techniques requiring less restrictive assumptions. Nonparametric analogues to t- and F-tests, ANOVA, regression and correlation. Computer applications.
CONTEMPORARY QUEBEC  
His historical, political, sociological, and cultural overviews of Quebec, offering an in-depth examination of questions of identity through the study of literature and popular culture.

FRANCOPHONE LITERATURE  
The problems of identity, race, class in a postcolonial context, studied through literary texts by authors from Africa, Caribbean, and Quebec.

SELECTED THEMES IN FRENCH LITERATURE  
(May be repeated). Conducted in French. Prerequisite: Graduate status or permission of department. Reading and discussion of literary works selected according to an important theme.

INDIVIDUAL READING IN FRENCH  
Prerequisites: Graduate status or permission of department. Individual reading in French, offered at the graduate level. (May be repeated for a total of eight credits.)

INDIVIDUAL READING AND RESEARCH IN FRENCH  
Prerequisites: Graduate status or permission of department. Independent study and research in specific areas. Considerable reading and writing required.

GERMAN  
3530:

SPECIAL TOPICS IN ADVANCED LANGUAGE SKILLS, CULTURE, AND LITERATURE  
1-4 credits  
Prerequisites: Graduate status or permission of department. Development of specialized language skills, advanced readings in German literature or culture. (May be repeated for a total of eight credits.)

INDIVIDUAL READING IN GERMAN  
Prerequisites: Graduate status or permission of department. Individual reading in German, offered at the graduate level. (May be repeated for a total of eight credits.)

ITALIAN  
3550:

INDIVIDUAL READING IN ITALIAN  
1-4 credits  
Prerequisites: Graduate status or permission of department. Individual study under guidance of professor who directs and coordinates student's reading and research.

SPANISH  
3580:

ADVANCED GRAMMAR  
3 credits  
Prerequisites: Graduate status or permission of department. Advanced study of Spanish syntax and grammatical analysis. Does not count toward the M.A. in Spanish. Conducted in Spanish.

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.

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.

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.

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.

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.

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.

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 problematic Spanish structures.

SPAIN DURING THE BAROQUE PERIOD  
4 credits  
Prerequisites: Graduate status or permission of department. A comparative study of the different cultural manifestations during the 17th century in Spain. Conducted in Spanish.

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.

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.

CULTURAL POLITICS IN THE RIVER PLATE  
4 credits  
Prerequisites: Graduate status or permission of department. This course will examine the military dictatorships of the 1970s and 1980s in Argentina and Uruguay by looking at how these regimes affect culture.

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.

REPRESENTING REALITY IN 19TH CENTURY SPAIN  
4 credits  
Prerequisites: Graduate status or permission of department. A comparative study of the major literary and artistic movements in Spain from Realism to Modernism. Conducted in Spanish.

20TH CENTURY SPAIN: THE AVANTGARDE 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.

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.

SPECIAL TOPICS IN SPECIALIZED LANGUAGE SKILLS OR CULTURE OR LITERATURE  
1-4 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.

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.

RACE AND ETHNICITY: INDIGENOUS CULTURES IN 20TH CENTURY SPANISH-AMERICA  
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.

20TH CENTURY SPANISH-AMERICAN NOVEL  
4 credits  
Prerequisites: Graduate status or permission of department. Reading and discussion of representative contemporary Latin American novels. Conducted in Spanish.

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.

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.

SPANISH 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.

SPANISH 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.

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.

INDIVIDUAL READINGS IN SPANISH  
1-4 credits each  
Content of given individual reading program taken from course contests approved for graduate work in Spanish.

PHILOSOPHY  
3600:

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.

AQUINAS  
3 credits  
Prerequisite: Permission of instructor. An in-depth examination of the philosophy of St. Thomas Aquinas covering his contributions in metaphysics, epistemology, ethics, political theory, and philosophical theology.

AUGUSTINE  
3 credits  
Prerequisite: Permission of instructor. An in-depth examination of the philosophy of St. Augustine covering his contributions in metaphysics, epistemology, ethics, political theory, and philosophical theology.

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.

EXISTENTIALISM  
2 credits  
Prerequisites: Permission of instructor. In-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tillich and other existentialists with their concern for the human condition.

PHENOMENOLOGY  
3 credits  
Prerequisites: Permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought.

ARISTOTLE  
3 credits  
Prerequisite: Permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of mankind and ethics.

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.

THEORY OF KNOWLEDGE  
3 credits  
Prerequisite: Permission of instructor. Examination of nature of knowledge; theories of perception, conception and truth, problem of induction and relation of language to knowledge.

PHILOSOPHY OF SCIENCE  
3 credits  
Prerequisites: Permission of instructor. Nature of scientific inquiry; types of explanation, laws and causality, theoretical concepts and reality. Also considers critics of hypothetico-deductive view of science, e.g., Hanson and Kuhn.

METAPHYSICS  
3 credits  
Prerequisite: Permission of instructor. Theories about ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources.

SEMINAR  
3 credits  
(May be repeated with change of topic) Prerequisite: Permission of instructor. Varying philosophical topics not covered in regular course offerings.

PHILOSOPHY OF LANGUAGE  
2 credits  
Prerequisites: 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.

ETHICS OF SCIENCE  
3 credits  
Examination of the foundational issues surrounding ethics and science as well as consideration of applied ethical issues of scientists, science, new technologies, and society.
PHYSICS 3650:

501 EVERYDAY PHYSICS 4 credits
Prerequisite: Admission 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/embdedded lecture environment.

506 PHYSICAL OPTICS 3 credits
Prerequisite: Admission to the physics master’s program or permission. Propagation, reflection, refraction, interaction of electromagnetic waves, superposition, polarization, interference and intereference, Fresnel and Fraunhofer diffraction, Fourier optics, coherence theory, and quantum optics.

531 MECHANICS I 3 credits
Prerequisites: Admission to the physics master’s program or permission. Mechanics at intermediate level: 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 intermediate level: moving coordinate systems, mechanics of continuous media. Lagrange’s equations, tensor algebra and stress analysis, rotation or rigid bodies, mechanics.

533 ELECTROMAGNETISM I 3 credits
Prerequisites: Admission to the physics master’s program or permission. Electricity and magnetism at intermediate level: Electrostatics and magnetostatics, field, scalar potential, dielectrics, Laplace’s and Poisson’s equations, current, magnetic field, vector potential, magnetic materials, inductance.

534 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 in waveguide radiation.

541 QUANTUM PHYSICS I 3 credits
Prerequisites: Admission to the physics master’s program or permission. Introduction to quantum theory. Schroedinger equation, observables, angular momentum, perturbation theory, variational principles, Gaussian bosons, scattering theory, spin and the Pauli principle.

542 QUANTUM PHYSICS II 3 credits
Prerequisite: Admission to the physics master’s program or permission. Applications of quantum theory to atomic, nuclear and solid state physics. Tunnelling and alpha decay, periodic potential, Hydrogen and Helium atoms, interatomic forces, quantum statistics.

551 ADVANCED LABORATORY I 3 credits
Prerequisite: Admission to the physics master’s program or permission. Experimental apparatus and techniques applicable to research-type projects in contemporary physics. FTIR spectroscopy, optical spectroscopy, lasers, EMA, and thin-film growth and characterization.

552 ADVANCED LABORATORY II 3 credits
Prerequisite: Admission to the physics master’s program or permission. Experimental projects applicable to contemporary physics. Diode and dye lasers, laser feedback, chaos, NMR, electron tunneling, and fiber optics.

556 TECHNIQUES OF PHYSICS INSTRUCTION 1 credit
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.

570 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 crystaline lattice.

581,582 METHODS OF MATHEMATICAL PHYSICS I AND II 3 credits each
Prerequisites: Admission to the physics master’s program or permission. Vectors, generalized coordinates, tensors, calculus of variations, vector spaces, linear transformations, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variables, analytic functions, Green’s functions, integral equations.

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 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.

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/No credit.

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 Schroedinger’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, Calcomp plotting, comparison of theoretical models with data, linear and non-linear least squares curve-fitting. May accommodate scientific problems of individual interest.

618 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, adhesion, contact angle.

615 ELECTROMAGNETIC THEORY I 3 credits
Prerequisite: Admission to the physics master’s program or permission. Electromagnetics and Maxwell’s equations at advanced level for graduate students. Boundary value problems, dielectric, multipole expansions, time-varying fields, Maxwell’s equations and electromagnetic waves, reflection, refraction, and 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, multiple fields.

625 QUANTUM MECHANICS I 3 credits
Prerequisites: Admission to the physics master’s program or permission. Basic concepts of quantum mechanics, representation theory, particle in a central field, addition of angular momenta and spins, Clebsch-Gordan 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 super conductivity.

641 LANGRANGIAN 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 transitions.

669 CRITICAL PHENOMENA AND PHASE TRANSITIONS 3 credits

685 SOLID-STATE PHYSICS I 3 credits
Prerequisites: Admission to the physics master’s program or permission. Theory 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 and pseudo potentials. Electron-electron interaction; screening by impurities. Friedel sum rule and plasma oscillations. Dynamics of electrons, transport properties and Fermi surface.

695 SPECIAL TOPICS 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.

696 SEMINAR IN THEORETICAL PHYSICS 1-3 credits
(May be repeated.) Prerequisite: Admission to the physics master’s program or permission. Intensive study of various selected topics in theoretical physics.

697 GRADUATE RESEARCH 15 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 are received at completion of such projects.

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.

699 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.

699 DOCTORAL RESEARCH 1-15 credits
(May be repeated.) Prerequisite: approval of the Student Advisory Committee for Ph.D. research in physics, physical chemistry, polymer science, applied mathematics or electrical engineering. Original research by a Ph.D. candidate in various disciplines under the guidance of physics faculty.

POLITICAL SCIENCE 3700:

502 POLICIES 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 rise of the state system in the Middle East after World War I; an analysis of the sociocultural, ideological forces influencing both the political and behavioral role of the Middle East. In-depth study of selected political topics.

510 INTERNATIONAL DEFENSE POLICY 3 credits
Introduction to political uses of military forces. Major focus on methodological, conceptual, and ethical dilemmas confronted in developing and implementing defense policy.

515 COMPARATIVE 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 Certificate in Racial and Gender Conflict, providing students with an opportunity to intensively examine racial and gender conflict.

537 GOVERNMENT VERSUS ORGANIZED CRIME 3 credits
The course gives a history of organized crime and the government’s responses to fight it. Newbery covers international crime, and also discusses terrorist organizations.

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 policy-making process, emphasizing roles of various participants in executive and legislative branches as well as private individuals and groups.

542 METHODS OF POLICY ANALYSIS 3 credits
Examines variety of methods available for analyzing public policies. Techniques of cost-benefit analysis, evaluation research quasi-experimentation are covered as well as potential strategies in policy evaluation. 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, public opinion, the role of special prosecutors, and the impacts of scandals.

544 AL QAEDA 3 credits
This course explores the causes and consequences of Al Qaeda’s terrorism. Students will confront different explanations for why individuals join and participate in terrorist groups.

550 ADMINISTERING PRISONS, PROBATION, AND PAROLE 3 credits
This course examines the political dynamics of correctional institutions’ governance and inter-family power relations, electoral politics and correctional policies, and political imprisonment.
695 INTERNSHIP IN GOVERNMENT AND POLITICS 2-6 credits (May be repeated for a total of six 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.) Research in suitable areas of political science or applied political science culminating in an Essay of Distinction. Credit/No credit.

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 9 credits. No more than six credits may be applied to degree requirements.) Research in suitable areas of political science or applied political science culminating in an Essay of Distinction. Credit/No credit.

697 INDEPENDENT RESEARCH AND READINGS 1-4 credits (May be repeated, but no more than six credits toward the master’s degree in political science) Prerequisite: Admission to a Political Science graduate program or permission.

699 MASTERS THESIS Prerequisite: Admission to a Political Science graduate program or permission. 2-6 credits

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 the nature, construction and use of tests and measurements in industry, government and education. Includes attitude and achievement tests, rating scales, attitude and opinion analysis.

520 ABNORMAL PSYCHOLOGY 4 credits Prerequisite: admission to the Graduate School. Survey of syndromes, etiology, diagnoses and treatments of major psychological conditions ranging from transient maladjustments to psychosis.

530 PSYCHOLOGICAL DISORDERS OF CHILDREN 4 credits Prerequisite: admission to the Graduate School. Survey of syndromes, etiologies and treatments of behavioral disorders in children from the standpoint of developmental psychology. Behavioral data and treatment procedures emphasized.

543 HUMAN RESOURCE MANAGEMENT 4 credits Prerequisite: admission to the Graduate School. The application of psychological theory to the effective management of human resources in an organization, including recruitment, selection, training and retention of personnel.

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.

545 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 Piagetian assessment tasks.

560 HISTORY OF PSYCHOLOGY 3 credits Prerequisite: admission to the Graduate School. Psychology in pre-scientific period and details of development or systematic viewpoints in 19th and 20th Centuries.

590 WORKSHOP IN PSYCHOLOGY 1-6 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.

591.2 PSYCHOLOGICAL RESEARCH USING QUANTITATIVE AND COMPUTER METHODS IN PSYCHOLOGY 4 credits each

600,2,4,6 PSYCHOLOGICAL RESEARCH USING QUANTITATIVE AND COMPUTER METHODS IN PSYCHOLOGY 4 credits each

610 SEMINAR IN SOCIAL PSYCHOLOGY 3 credits Prerequisite: admission to the Graduate School. An introduction to the research literature in social psychology. Topics include social relations, perception, social cognition, and social influence.

610,2 SOCIAL PSYCHOLOGY 2 credits Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special nondegree students with permission. Psychological research problem applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypothesis testing, psychological measurement, error, robustness and power.

610,2 CORE I: SOCIAL PSYCHOLOGY 2 credits Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special nondegree students with permission. Psychological research problem applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypothesis testing, psychological measurement, error, robustness and power.

620 CORE II: COGNITIVE PSYCHOLOGY 2 credits Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special nondegree students with permission. Psychological research problem applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypothesis testing, psychological measurement, error, robustness and power.

620,2,4,6 CORE II: COGNITIVE PSYCHOLOGY 2 credits each

630 CORE III: INDIVIDUAL DIFFERENCES 2 credits Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Study of empirical research and the theories on the psychological processes related to interpersonal behavior, focusing on topics like attitude change, social influence, and prosocial behavior.

630,2,4,6 CORE III: INDIVIDUAL DIFFERENCES 2 credits each

640,2,4,6 CORE IV: BIO-PSYCHOLOGY 2 credits Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Study of nervous system structure/function including neuroanatomy, neuron physiology, and synaptic transmission. Also overview bio- logical bases of learning, memory, consciousness, intelligence, psychopharmacology, behavior genetics.

640,2,4,6 CORE IV: BIO-PSYCHOLOGY 2 credits each

650,2,4,6 CORE V: SOCIAL-COGNITIVE PSYCHOLOGY 2 credits Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Social and cognitive theories applied to the issue of how people understand their social experiences. Topics include: person perception, attribution, social categorization, social influence.

660,2,4,6 SCIENCE AND ETHICS OF INDUSTRIAL PSYCHOLOGY 4 credits Survey of the profession. Industrial Psychology including coverage of selection and performance management. Also, discusses professional and scientific guidelines regarding the ethics of Industrial Psychology.
<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Prerequisites/Notes</th>
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</thead>
<tbody>
<tr>
<td><strong>COUNSELING PRACTICUM</strong></td>
<td>2</td>
<td>Prerequisites: graduate standing in psychology and permission of instructor. Introductory to applied dimensions of counseling. Topics are discussed as case studies via role-plays and discussions. Lab and seminar exercises, and case conference evaluations of actual clinical work samples. (May be repeated for a total of 8 credits.) Credit/noncredit.</td>
</tr>
<tr>
<td><strong>COUNSELING PRACTICUM LAB</strong></td>
<td>2</td>
<td>Prerequisites: graduate standing in psychology and instructor permission. Corequisites: 672. Application of therapeutic skills and intervention techniques with clients in the Psychology Counseling Center, including small group supervision of clinical work. (May be repeated for a total of 8 credits.) Credit/noncredit.</td>
</tr>
<tr>
<td><strong>PERSONNEL PRACTICUM</strong></td>
<td>1-4</td>
<td>Prerequisites: 660, graduate standing in psychology, 14 credits of graduate counseling psychology, and permission of the instructor. Supervised field experience in industrial/organizational psychology settings in including business, government, or social organizations. The field experience requires the application of industrial/organizational psychological theories and techniques. Credit/noncredit.</td>
</tr>
<tr>
<td><strong>APPLIED COGNITIVE AGING PRACTICUM</strong></td>
<td>1-4</td>
<td>Prerequisites: 672, graduate standing in psychology, 14 credits of graduate counseling psychology and permission of the instructor. Supervised field experience in applied cognitive aging psychology to provide the student with the opportunity to apply knowledge acquired in the academic setting and to obtain knowledge about community programs and agencies which focus on developmental processes. Credit/noncredit.</td>
</tr>
<tr>
<td><strong>EXTERNAL SPECIAL TOPICS</strong></td>
<td>(May be repeated for a maximum of 16 credits.) Prerequisite: permission of area chair. Graduate coursework taken at Kent State, Youngstown State, and/or Cleveland State Universities which leads to a Master's degree either as a required or an elective course.</td>
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<tr>
<td><strong>MATERIAL'S PRACTICE</strong></td>
<td>1-4</td>
<td>(May be repeated.) Prerequisite: permission of the instructor. Research analysis of data and preparation of thesis for master's degree.</td>
</tr>
<tr>
<td><strong>SURVEY OF PROJECTIVE TECHNIQUES</strong></td>
<td>4</td>
<td>Prerequisite: 630 or instructor's permission. Introduction to rationale, assumptions, and ethics, and research of projective testing. Elementary administration, scoring and interpretation of projective test battery and survey of other important contemporary projective instruments.</td>
</tr>
<tr>
<td><strong>PSYCHODIAGNOSTICS</strong></td>
<td>4</td>
<td>Prerequisite: 700. Application of psychological testing to problems of diagnosis and evaluation. Practical experience in administration, scoring and interpretation. Integration of projective data with other assessment techniques in variety of settings.</td>
</tr>
<tr>
<td><strong>SUPERVISION IN COUNSELING PSYCHOLOGY I</strong></td>
<td>4</td>
<td>Prerequisite: doctoral standing or permission of instructor. Instruction and experience in supervising a graduate student in counseling.</td>
</tr>
<tr>
<td><strong>INTRODUCTION TO COUNSELING PSYCHOLOGY</strong></td>
<td>2</td>
<td>Prerequisites: graduate standing in the Collaborative Program in Counseling Psychology, including small group supervision of clinical work. Introduction to historical foundations of and recent developments in counseling psychology, with an emphasis on contemporary research literature in the field.</td>
</tr>
<tr>
<td><strong>THEORIES OF COUNSELING AND PSYCHOTHERAPY</strong></td>
<td>4</td>
<td>Prerequisite: 630 or permission of the instructor. Major systems of individual psychotherapy explored within a philosophy of science framework: Freudian, behavioral, Rogerian, cognitive, and other. Includes research, contemporary problems and ethics.</td>
</tr>
<tr>
<td><strong>VOCATIONAL BEHAVIOR</strong></td>
<td>4</td>
<td>Prerequisite: 630 or permission of instructor. Theories and research on vocational behavior and vocational counseling. Topics include major theories of vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.</td>
</tr>
<tr>
<td><strong>PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING</strong></td>
<td>4</td>
<td>Prerequisites: 630 or graduate standing in school psychology, and instructor's permission. History, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.</td>
</tr>
<tr>
<td><strong>PROFESSIONAL, ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY</strong></td>
<td>4</td>
<td>Prerequisite: doctoral standing or permission of the instructor. Examination of major issues in the counseling profession as they affect the counselor as a professional and as a person, issues, problems and trends in counseling.</td>
</tr>
<tr>
<td><strong>OBJECTIVE PERSONALITY EVALUATION</strong></td>
<td>4</td>
<td>Prerequisites: completion of 630 or 400/500, and 420/520, and 5600-645. Study of the development, administration, and interpretation of objective instruments for personality assessment (MMPI, CPI, MBTI, 16PF and selected additional inventories).</td>
</tr>
<tr>
<td><strong>Counseling Research Methods I</strong></td>
<td>3</td>
<td>Prerequisite: doctoral standing or permission of the instructor. Study of research designs, evaluation procedures, and review of current research.</td>
</tr>
<tr>
<td><strong>ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY</strong></td>
<td>4</td>
<td>Prerequisites: 630 or graduate standing in psychology, or permission of instructor. Discussion of historical, cultural, sexual orientation, age, disability, and spirituality.</td>
</tr>
<tr>
<td><strong>HISTORY AND SYSTEMS IN PSYCHOLOGY</strong></td>
<td>2</td>
<td>Prerequisite: 630. Philosophical and scientific antecedents of psychology and details of the development of systematic viewpoints in the 19th and 20th centuries.</td>
</tr>
<tr>
<td><strong>PSYCHOLOGY OF ADULTHOOD AND AGING</strong></td>
<td>4</td>
<td>Prerequisite: graduate standing in psychology or in the collaborative program in counseling psychology or permission of the instructor. Aspects of development, aging with emphasis on lifespan methodology and research design. Age-related changes in intelligence, personality, sensation, perception, learning, memory, and socialization and intervention approaches.</td>
</tr>
<tr>
<td><strong>SOCIAL AGING</strong></td>
<td>4</td>
<td>Prerequisites: graduate standing in psychology, or permission of instructor. Overview of theories, methods, and data on social psychology and aging.</td>
</tr>
<tr>
<td><strong>PERCEPTION, ATTENTION, AND AGING</strong></td>
<td>4</td>
<td>Prerequisites: graduate standing in developmental and aging program or permission of instructor. Overview of theory, methods, and data on attention and perception and how aging affects these phenomena.</td>
</tr>
<tr>
<td><strong>Cognition and Aging</strong></td>
<td>4</td>
<td>Prerequisites: graduate standing in psychology or permission of instructor. Survey of selected topics in cognitive aging including memory, problem-solving, decisionmaking, and expertise.</td>
</tr>
<tr>
<td><strong>APPLIED COGNITIVE AGING PSYCHOLOGY: CEREAL NEUROPSYCHOLOGY</strong></td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td><strong>PSYCHOPHARMACOLOGY AND ADULTHOOD</strong></td>
<td>4</td>
<td>Prerequisite: 640. Pharmacology addresses a diverse range of drugs that act in the brain. Drug categories include classes of drugs that produce neurophysiological, emotional, cognitive, and behavioral effects.</td>
</tr>
<tr>
<td><strong>APPLIED DEVELOPMENTAL PSYCHOLOGY</strong></td>
<td>4</td>
<td>Prerequisites: 727, graduate standing in psychology, or permission of instructor. Examination of methodologies, evaluation, child abuse, early intervention, day care, kibbutzin, social net- works, subcultural variations, and hospice/dying.</td>
</tr>
<tr>
<td><strong>INDUSTRIAL GERONTOLOGY</strong></td>
<td>4</td>
<td>Prerequisites: 660, graduate standing in psychology, or permission of instructor. Study of age-related factors in work involving middle-aged and older adult workers. Topics include personnel selection, training, motivation and appraising older employees; health and safety; job design, and retirement.</td>
</tr>
<tr>
<td><strong>ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS</strong></td>
<td>2</td>
<td>Prerequisite: graduate standing in psychology or in 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.</td>
</tr>
<tr>
<td><strong>ORGANIZATIONAL PSYCHOLOGY</strong></td>
<td>4</td>
<td>Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Applies the general systems theory framework to the study of the relationships between organizational characteristics and human behavior, for the internal processes of organizations, and the relationships between organizations and their environment.</td>
</tr>
<tr>
<td><strong>PERSONNEL SELECTION AND ADVANCED APPLIED TESTING ISSUES</strong></td>
<td>4</td>
<td>Review of strategies employed by professional psychologists for personnel selection, placement and promotion. Includes discussion of advanced testing issues.</td>
</tr>
<tr>
<td><strong>TRAINING</strong></td>
<td>2</td>
<td>Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Review of industrial training methods and programs in terms of various theoretical orientations, as well as consideration of techniques to evaluate these programs.</td>
</tr>
<tr>
<td><strong>RESEARCH METHODS IN PSYCHOLOGY</strong></td>
<td>2-4</td>
<td>Prerequisites: 660, graduate standing in psychology or permission of instructor. Scientific method and its specific application to psychology. Topics include data collection, validity, reliability, a user's guide to general linear models, and computer analysis.</td>
</tr>
<tr>
<td><strong>COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH</strong></td>
<td>4</td>
<td>Prerequisite: 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.</td>
</tr>
<tr>
<td><strong>ORGANIZATIONAL MOTIVATION AND LEADERSHIP</strong></td>
<td>4</td>
<td>Prerequisites: 660, graduate standing in psychology, or permission of instructor. Survey of theories of motivation specifying both the intrinsic and extrinsic determinants of worker motivation. The leadership process and its relation to motivation, group performance and attributions is also analyzed.</td>
</tr>
<tr>
<td><strong>JOB EVALUATION AND EQUAL PAY</strong></td>
<td>4</td>
<td>Prerequisites: 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 regulation including the Equal Pay Act, comparable worth and other issues will be discussed. Regression approaches to job evaluation and applicable court cases will be reviewed.</td>
</tr>
<tr>
<td><strong>ORGANIZATIONAL CHANGE AND TRANSFORMATION</strong></td>
<td>4</td>
<td>Prerequisites: 660 or permission of instructor. Survey of theories and introduction to practical methods of organizational change, ranging from use to increase organizational effectiveness and improve employee quality of work life.</td>
</tr>
<tr>
<td><strong>INFORMATION PROCESSING AND INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY</strong></td>
<td>4</td>
<td>Prerequisites: 660. Coverage of current theories in cognitive psychology is applied to traditional concerns of industrial/organizational psychology such as performance appraisal or motivation.</td>
</tr>
<tr>
<td><strong>PERSONNEL PSYCHOLOGY AND THE LAW</strong></td>
<td>4</td>
<td>Prerequisites: 660. Issues in personnel psychology which have legal implications are reviewed. The impact of recent court decisions are evaluated in staffing and compensation.</td>
</tr>
<tr>
<td><strong>PERFORMANCE FEEDBACK AND EVALUATION</strong></td>
<td>4</td>
<td>Prerequisites: 660, graduate standing in psychology, or permission of instructor. Examinations current research and practice in the area of performance appraisal. Topics will include: criterion development, rater training, appraisal effectiveness, feedback processes, and performance management.</td>
</tr>
<tr>
<td><strong>GRADUATE SEMINAR IN PSYCHOLOGY</strong></td>
<td>1-4</td>
<td>(May be repeated.) Prerequisites: graduate standing in psychology and permission of the instructor. Special topics in psychology.</td>
</tr>
<tr>
<td><strong>ADVANCED COUNSELING PRACTICUM</strong></td>
<td>4</td>
<td>(May be repeated.) Prerequisites: 671, 672, 673 and permission of instructor. This course provides graduate students in counseling with actual client contacts and supervisory experiences under faculty supervision. Credit/noncredit.</td>
</tr>
<tr>
<td><strong>COUNSELING PSYCHOLOGY PRACTICUM</strong></td>
<td>4</td>
<td>(May be repeated.) Prerequisites: 795 (eight hours) or 5600/675 (five hours). Advanced counseling psychology students will have supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications. Credit/noncredit.</td>
</tr>
<tr>
<td><strong>INDEPENDENT READING AND/OR RESEARCH</strong></td>
<td>1-3</td>
<td>(May be repeated.) Prerequisite: permission of the instructor. Individual readings and/or research on a topic under supervision of faculty member with whom specific arrangements have been made.</td>
</tr>
<tr>
<td><strong>DOCTORAL DISSERTATION</strong></td>
<td>1-2</td>
<td>Prerequisite: open to properly qualified students. Minimum required 12 credits, maximum subject to departmental approval. Supervised research on topic deemed suitable by the dissertation committee.</td>
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**SOCIOLGY**

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<tr>
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<tr>
<td><strong>SOCIAL STRUCTURES AND PERSONALITY</strong></td>
<td>3</td>
<td>Interactions between personal and social personality characteristics. Personality treated as both result and determinant of social structure and process. Lecture.</td>
</tr>
</tbody>
</table>
511 SOCIAL INTERACTION
Intensity of advanced theory and research in social psychology, particularly how social interaction affects self-concept and another. Lecture. 3 credits

512 SOCIALIZATION: CHILD TO ADULT
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 societ in general. 3 credits

521 RACIAL AND ETHNIC RELATIONS
Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture. 3 credits

525 SOCIOLOGY OF URBAN LIFE
Emergence and development of urban society. Examination of urban social structure from neighborhood to metropolitan and the problems and prospects. Emphasis on various life styles of urban subcultures. Lecture/discussion. 3 credits

528 THE VICTIM IN SOCIETY
Study of the nature, causes and consequences of victimization with special focus on crime victimization. 3 credits

530 JUVENILE DELINQUENCY
Analysis of social structure and process from which delinquency develops. Emphasis on current and past research. Lecture/discussion. 3 credits

531 CORRECTIONS
Theories, 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 (8610-4711). 3 credits

533 SOCIOLOGY OF DEVIANT BEHAVIOR
3 credits

541 SOCIOLOGY OF LAW
Social theories and consequences of law and legal processes. Emphasis on uses of law, social change and aspects of legal professions. Lecture. 3 credits

544 SOCIAL ISSUES IN AGING
A look into the major issues and problems facing older persons. Special attention is given to the unique needs of the elderly, as well as an examination of current societal policy and programs to meet these needs. 3 credits

547 SOCIOLOGY OF SEX AND GENDER
Review of research and theories of sex and gender. Examination of gender as structure, process and experience in society. 3 credits

550 SOCIOLOGY OF MENTAL ILLNESS
Theoretical and empirical analyses of the medical model of mental illness. Emphasis on psychological, sociological and biological dimensions of mental illness. 3 credits

555 FAMILY VIOLENCE
Family violence with a focus on child abuse, courtship violence, spouse/partner abuse, and elder abuse. Theories, methodologies, and strategies to end family violence are explored. 3 credits

560 SOCIOLOGICAL THEORY
An overview and examination of theoretical issues in sociology, through the study of both classical and contemporary theoretical work. 3 credits

601 PROSEMINAR IN SOCIOLOGY
1 credit
Prerequisite: teaching assistant in Sociology or permission of instructor. Introduction to professional aspects of sociology and major areas of study/research in the field. Seminar. Credit/No credit.

602 FAMILY AND SOCIETY
3 credits
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 levels. Development and impact of family policies is discussed. 3 credits

604 RESEARCH DESIGN AND METHODS
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Intensive analysis of problem statement, research design, i.e., those encountered in thesis preparation. (Same as KSU 6/72211) Seminar. 3 credits

613 SOCIOLOGY OF PROGRAM EVALUATION AND PROGRAM IMPROVEMENT
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Program evaluation as it occurs in different social programs. Topics includes history evaluation, value assumptions, political dimension, ethical issues, social change, use of experimentation and alternatives and the use for program development. Seminar. 3 credits

615 EPIDEMIOLOGIC METHODS IN HEALTH RESEARCH
3 credits
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 illness and injury in society and evaluations of interventions to reduce the burden. 3 credits

625 SOCIOLOGY OF SENTIMENTS AND EMOTIONS
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. A sociological perspective is employed to analyze and understand the production, distribution and utilization of socialized sentiments and emotions. (Same as KSU 672439) Seminar. 3 credits

631 PSYCHOLOGY
Prerequisite: Graduate standing in Sociology or permission of instructor. Intensive examination of social psychological theory and research, both classical and contemporary. Provides student with background and working knowledge of social psychological aspects of social phenomena. (Same as KSU 72439) Seminar. 3 credits

634 PERSONALITY AND SOCIAL SYSTEMS
3 credits
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 occupational roles. (Same as KSU 72431) Seminar. 3 credits

639 SOCIOLOGY OF GENDER
3 credits
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 672496) Seminar. 3 credits

645 SOCIAL ORGANIZATION
3 credits
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 72545) Seminar. 3 credits

646 SOCIAL INEQUALITIES
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Seminar dealing with social classes and castes with special reference to American social structure. (Same as KSU 72546) Seminar. 3 credits

648 COMPLEX ORGANIZATIONS
3 credits
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 72549) Seminar. 3 credits

649 SOCIOLOGY OF WORK
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Examination of work as an interacting phenomenon in urban societies: contrasts with non-work and lesser significance of occupations, professional and work types and organization of work. (Same as KSU 72542) Seminar. 3 credits

651 SEMINAR IN RACE RELATIONS
3 credits
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 72639) Seminar. 3 credits

656 SOCIOLOGY OF HEALTH CARE
3 credits
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 72233). 3 credits

657 URBAN HEALTH CARE
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. 3 credits

663 DEVIANCE
3 credits
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 72800) Seminar. 3 credits

664 SOCIOLOGY OF CRIMINAL BEHAVIOR
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of relationship of crime and delinquency to social structure and social processes. Responses by criminal justice agencies. Seminar. 3 credits

665 JUVENILE DELINQUENCY: THEORY AND RESEARCH
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of theories of delinquency, ecological, class structural, subcultural, etc. Review of relevant research also presented. Seminar. 3 credits

666 SOCIOLOGY OF CORRECTIONS
3 credits
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. 3 credits

677 FAMILY ANALYSIS
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis and evaluation of sociological theory and research in the family. Concentration on techniques of theory construction and research design in sociological study of the family. (Same as KSU 72638) Seminar. 3 credits

678 SOCIAL GERONTOLOGY
3 credits
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. 3 credits

679 POLITICAL SOCIOLOGY
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis and interpretation of political behavior through application of sociological concepts. (Same as KSU 72544) Seminar. 3 credits

681 CROSS CULTURAL PERSPECTIVES IN AGING
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. A comparison of aging in various cultures and societies around the world. 3 credits

686 POPULATION
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of basic population theory and methods. Trends and differentials in fertility, mortality, migration and selected social demographic variables also considered. (Same as KSU 72636) Seminar. 3 credits

687 SOCIAL CHANGE
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Advanced seminar in theories of social change. (Same as KSU 72320) Seminar. 3 credits

696 MASTER'S RESEARCH PAPER
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 paper for Master's Research Paper Option. 1-6 credits

697 READINGS IN CONTEMPORARY SOCIOLOGICAL LITERATURE
1-3 credits
May be repeated. Prerequisite: seven credits of Sociology, and permission of advisor, instructor, and chair of the department. Intensive reading and interpretation of written material in student's chosen field of interest. Regular conferences with instructor. (Must be repeated) 1-3 credits

698 DIRECTED RESEARCH
3 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Empirical research to be conducted by the student under graduate faculty supervision. 3 credits

699 MASTER'S THESIS
1-6 credits
Prerequisite: Graduate standing in Sociology or permission of instructor. Supervised thesis writing. (Must be repeated for a minimum of six credits) 1-6 credits

700 COLLEGE TEACHING OF SOCIOLOGY
3 credits
Prerequisite: Teaching assistant in sociology or permission of instructor. Training and experience in college teaching of sociology. Approved for credit toward the Ph.D. degree. Not approved as credit toward the degree. (Same as KSU 72684) Seminar. 3 credits

701 MULTIVARIATE TECHNIQUES IN SOCIOLOGY
3 credits
Prerequisite: 604 or permission of instructor. Graduate student only. Methodological problems using advanced multivariate techniques in analysis of sociological data, Topics include nonparametric causal analysis such as recursive and nonrecursive path analysis. (Same as KSU 72219). 3 credits

702 MEASUREMENT IN SOCIOLOGY
3 credits
Prerequisite: 708 or equivalent, graduate standing in Sociology or permission of instructor. Theories and methods of measurement reliability and validity, scale and item design, alternative measurement strategies, measurement models. Seminar. 3 credits

709 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 72228) Seminar. 3 credits

710 SOCIAL SAMPLING
3 credits
Prerequisite: 604 or permission. Theory and methods of sampling in sociology. Topics include sample design, sample efficiency, nonresponse, morality in longitudinal designs, urban, organizational, and survey sampling, stratified and cluster sampling. Seminar. 3 credits

711 SURVEY RESEARCH METHODS
3 credits
Prerequisite: 604 or permission. In-depth study of design and administration of social surveys. (Same as KSU 72220) Seminar. 3 credits
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<tr>
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<td>617</td>
<td>LEADERSHIP AND DECISION-MAKING</td>
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<td>CITIZEN PARTICIPATION</td>
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<td>COMMUNITY ORGANIZING</td>
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<td>SOCIAL SERVICES PLANNING</td>
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<td>MASTER'S COLOQUIUM</td>
<td>1 credit</td>
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<tr>
<td>734</td>
<td>CONCEPTUAL AND LEGAL FOUNDATIONS OF PUBLIC ADMINISTRATION</td>
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<td>731</td>
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<td>720</td>
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<td>705</td>
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<td>ADVANCED RESEARCH METHODS II</td>
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<td>520</td>
<td>ECONOMICS OF URBAN POLICY</td>
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<td>704</td>
<td>PROGRAM EVALUATION</td>
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<td>707</td>
<td>URBAN PLANNING AND MANAGEMENT STRATEGIES</td>
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<td>708</td>
<td>URBAN POLICY: THE HISTORICAL PERSPECTIVE</td>
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<td>709</td>
<td>SYSTEMS AND PROCESSES OF POLICY ANALYSIS</td>
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<td>QUALITATIVE RESEARCH METHODS</td>
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<td>711</td>
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<td>SEMINAR IN POLICY ANALYSIS AND EVALUATION</td>
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<td>SEMINAR IN URBAN AND REGIONAL PLANNING</td>
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<td>716</td>
<td>THEORETICAL FOUNDATIONS FOR PUBLIC AFFAIRS</td>
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<td>720</td>
<td>COMPARATIVE PLANNING STRATEGIES</td>
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<td>721</td>
<td>ETHICS IN GOVERNMENT</td>
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<td>723</td>
<td>THEORIES OF PUBLIC BUDGETING AND FINANCE</td>
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<td>722</td>
<td>GOVERNANCE AND ADMINISTRATION</td>
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<td>723</td>
<td>CONCEPTUAL AND LEGAL FOUNDATIONS OF PUBLIC ADMINISTRATION</td>
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<td>610</td>
<td>CLASSICAL THERMODYNAMICS</td>
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<td>SOLIDS PROCESSING</td>
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<td>POLLUTION CONTROL</td>
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**Engineering General Engineering:**

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Graduate Courses

621 SURFACE SCIENCE IN CHEMICAL ENGINEERING 3 credits
Prerequisite: permission of instructor. This course emphasizes the basics of surface science (surface energy, wetting, adhesion; surface characterization techniques (angle contact, ellipsometry, XPS); and surface engineering methods (SAMs, soft lithography).

622 BIOCHEMICAL ENGINEERING 3 credits
Application of chemical engineering principles to biological processes which produce desirable compounds or destroy unwanted or hazardous substances.

625 PHYSICAL PROPERTIES OF STRUCTURAL BIOPOLYMERS 3 credits
Prerequisite: permission of instructor. Examination of the physical properties of biological materials from a material science perspective leading to a rational design of biomaterials.

630 CHEMICAL PROCESS DYNAMICS 3 credits
Prerequisite: 600. Development and solutions of mathematical models for chemical processes including models based on transport phenomena principles, population balance methods and systems analysis.

631 CHEMICAL ENGINEERING ANALYSIS 3 credits
Mathematical analysis of chemical processes in transport processes, chemical kinetics and control systems. Solution techniques for these problems and their practical significance are stressed. Heuristic proofs will be given for necessary theory developments.

632 NONLINEAR DYNAMICS AND CHAOS 3 credits
Description and analysis of the complex behavior exhibited by nonlinear equations. Emphasis is on the numerical methods to quantify chaos.

633 COLLOIDS—PRINCIPLES AND PRACTICE 3 credits
Prerequisite: permission of instructor. Colloid science and applications in chemical and biomaterials engineering: dispersive systems, interparticle forces, surface tension, interfacial thermodynamics, colloid applications, biomaterials applications and characterization techniques.

634 APPLIED SURFACTANT SCIENCE 3 credits
Prerequisite: 610. The basics of surfactant science, the chemical engineering application of surfactants including use in polymerization media, separations, emulsion, microemulsion, and a model modifier.

635 ADVANCED POLYMER ENGINEERING 3 credits
Prerequisite: 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer rheology.

640 ADVANCED PLANT DESIGN 3 credits
Prerequisite: permission. Topical treatment of process and equipment design, scale-up, optimization, process synthesis, process economics. Chemical problems.

674 RENEWABLE RESOURCES FOR ENVIRONMENTALLY BENIGN CHEMICAL PRODUCTION 3 credits
Prerequisite: permission of instructor. Focus is on chemical and biochemical processing technologies for the preparation of fuels, polymeric materials, and specialty chemicals from renewable resources.

680 HETEROGENEOUS CATALYSIS 3 credits
Kinetics and mechanisms of heterogeneous and homogeneous catalytic reactions; characterization and design of heterogeneous catalysts.

696 TOPICS IN CHEMICAL ENGINEERING 1-3 credits
Course content varies. Prerequisite: permission of instructor. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, biochemical engineering, simultaneous heat and mass transfer phenomena and new separation techniques.

697 CHEMICAL ENGINEERING REPORT 3 credits
Prerequisite: permission of advisor. A relevant problem in chemical engineering is studied. Required course for students electing non-thesis option. Final report must be approved by advisor and advisory committee.

699 MASTER’S THESIS 1-6 credits
Open only to graduate students in master’s degree. Supervised original research in specific area of chemical engineering selected on basis of availability of staff and facilities. Open only to graduate students in master’s degree.

701 ADVANCED TRANSPORT PHENOMENA 3 credits
Prerequisite: 605. Advanced theory of transport phenomena such as applied tensor analysis, conservation equations, multiphase reactive transport and multiphase transport. Illustrative practical examples presented.

702 MULTIPHASE TRANSPORT PHENOMENA 3 credits
Prerequisite: 605. General transport theorem, kinematics, Cauchy’s lemma and the jump boundary conditions are developed followed by the theory of volume averaging. The phase equations are then volume averaged to obtain the multiphase equations of change. The techniques using these equations and their practical significance is also covered.

706 ADVANCED REACTION ENGINEERING 3 credits
Prerequisite: 605. Kinetics of heterogeneous systems, steady and unsteady state mathematical modeling of chemical reactors, fluidization and additional topics drawn from current literature.

711 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, nonequilibrium thermodynamics and current topics from literature.

715 MOTIONUM TRANSPORT 3 credits
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

716 NON-NEWTONIAN FLUID MECHANICS 3 credits

720 ENERGY TRANSPORT 3 credits
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer STARTING with equations of continuity, momentum and energy.

721 TOPICS IN ENERGY TRANSPORT 3 credits
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering.

725 MASS TRANSFER 3 credits
Prerequisite: 600. Theory of mass transfer with applications to absorption, adsorption, distillation, and heterogeneous catalysis.

731 PROCESS CONTROL 3 credits
Prerequisite: 630. Introduction to modern control theory of chemical processes including cascade control, multivariable control and data sampled control.

736 POLYMER ENGINEERING TOPICS 3 credits
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiphase flow, artificial fiber engineering, etc.

738 CHEMICAL PROCESSING OF ADVANCED MATERIALS 3 credits
Prerequisite: 605. Advanced materials such as ceramics, optical materials, sensors, catalysts; application of reaction engineering to solid/gas processing, ceramic processing, modified chemical vapor deposition.

742 ADVANCED CATALYST DESIGN 3 credits
Prerequisite: 605. Development of catalysis theory and its application to the design of practical catalysts.

750 ADVANCED POLLUTION CONTROL 3 credits
Prerequisite: Permission. Analysis of current environmental research in analytical instrumentation, air and water, pollution control, hazardous waste treatment, and nuclear waste disposal.

750 ADVANCED BIOCATALYSIS AND BIOTRANSFORMATIONS 3 credits
Prerequisite: 3160-4050 or permission of instructor. Focuses include: (a) high performance enzymes via chemical modification, recombinant technology, evolution, extremophiles; (b) applications of enzymes in biosynthesis, bioprocessing, biobiosensing, and bioremediation.

751 CHEMICAL ENGINEERING THESIS 1 credit
(May be repeated for a maximum of six credits.) Prerequisite: Permission of instructor. Advanced level coverage of specialized chemical engineering topics. Indentified for students seeking a Ph.D. in engineering.

754 ADVANCED RESEARCH TECHNIQUES FOR ENGINEERING 3 credits
(May be repeated for a total of six credits.) Prerequisite: permission of department chair. Advanced projects, readings and other studies in various areas of chemical engineering. Intended for student seeking Ph.D. in engineering.

789 PRELIMINARY RESEARCH 1-5 credits
(May be repeated for a total of 15 credits.) Prerequisite: approval of dissertation director. Preliminary investigations prior to the submission of a dissertation proposal to the Interdisciplinary Doctoral Committee.

899 DOCTORAL DISSERTATION 1-5 credits
(May be taken more than once.) Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student.

CIVIL ENGINEERING

514 DESIGN OF EARTH STRUCTURES 3 credits
Prerequisite: Permission. Design of earth structures; dams, highway fills, cofferdams, embankments, construction techniques, quality control, embankment analysis, instrumentation, foundation soil stabilization, seepage analysis and control. Design problem. Graduate student must perform more advanced analysis and design.

518 SOIL AND ROCK EXPLORATION 3 credits
Prerequisite: Permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radioactive measurements. Photo interpretation.

523 CHEMISTRY FOR ENVIRONMENTAL ENGINEERS 3 credits (2 lecture – 1 lab)
Prerequisite: One year of college chemistry. General, physical, organic, biochemistry, equilibrium, and colloid chemistry concepts applied to environmental engineering. Concepts of physical chemistry are used in water and wastewater laboratory.

526 ENVIRONMENTAL ENGINEERING DESIGN 3 credits
An introduction to the physical, chemical and biological processes utilized in the treatment of wastewater, and design parameters emphasized.

527 WATER QUALITY MODELING AND MANAGEMENT 3 credits
Prerequisite: Permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radioactive measurements. Photo interpretation.

576 ENVIRONMENTAL ENGINEERING DESIGN 3 credits
An introduction to the physical, chemical and biological processes utilized in the treatment of wastewater, and design parameters emphasized.

578 HAZARDOUS AND SOLID WASTES 3 credits
Prerequisite: 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.

584 APPLIED HYDRAULICS 3 credits
Review of design principles: urban hydraulics, steam channel mechanics, sedimentation, coastal engineering.

585 COMPUTER METHODS OF STRUCTURAL ANALYSIS 3 credits
Prerequisite: Advanced finite element analysis using commercial packages, finite element software, interactive graphics, beam stiffness concepts and matrix formulation; simple and complex structural systems modeling; vibration analysis.

586 OPTIMUM STRUCTURAL DESIGN 3 credits
Prerequisite: Permission. Advanced courses in structural optimization. Mathematical programming methods including unconstrained minimization, multidimensional minimization and constrained minimization.

587 ADVANCED MECHANICS OF MATERIALS 3 credits

588 TRANSPORTATION PLANNING 3 credits
Prerequisite: 605. Advanced coursework in transportation management, travel demand forecasting, development, analysis and evaluation of transportation system plans. Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.

589 HIGHWAY DESIGN 3 credits
Study of modern design of geometrical and pavement features of highways. Design problem and computer use. Graduate students will produce a more complete design.

591 PAVEMENT ENGINEERING 3 credits
Prerequisite: 605, 610. Advanced pavement materials characterization, pavement design, pavement restoration for rigid and flexible pavements.

595 TRAFFIC ENGINEERING 3 credits
Prerequisite: 605. Traffic engineering and planning surveys, traffic behavior, traffic data collection, traffic engineering analysis and planning methods.

596 ADVANCED HIGHWAY DESIGN 3 credits
Prerequisite: 594, Autocad, or permission. Computer-aided geometric design of highways including survey data input, design criteria selection, design model generation, cross-section templates, horizontal and vertical roadway design, earthwork computations, and advanced topics.
627 ENVIRONMENTAL OPERATIONS LABORATORY 3 credits
Prerequisite: Permission of instructor. Conduction of laboratory experiments related to the design and operation of water and wastewater treatment processes. Experimental design, data collection, analysis and report preparation.

628 ADVANCED CHEMICAL OXIDATION PROCESS 3 credits
Prerequisite: Permission. Qualitative and quantitative treatment of variables that govern process chemistry and kinetics in water. Emphasis on ozone, hydrogen peroxide, and ultraviolet light (UV).

631 SOL REMEDIATION 3 credits
Prerequisite: 621 or permission. Provide a thorough understanding of site characteristics, traditional soil remediation technologies, as well as present new and emerging remediation technologies.

635 AIR POLLUTION CONTROL 3 credits
Prerequisite: 621 or permission. Introduction to air pollution control philosophies, approaches, regulations, and modeling. Also contains an in-depth evaluation/design approach for the control of particulate matter, SOX, NOX, and VOCs.

640 ADVANCED FLUID MECHANICS 3 credits

663 ADVANCED TRANSPORTATION ENGINEERING 1 3 credits
Prerequisite: Highway design. Methods, planning, design, transportation planning, highway design, capacity planning, airway ramp metering, and highway traffic safety.

663 ADVANCED TRANSPORTATION ENGINEERING II 3 credits
Prerequisite: Highway design. Methods, planning, design, transportation planning, highway design, capacity planning, airway ramp metering, and highway traffic safety.

665 TRAFFIC DETECTION AND DATA ANALYSIS 3 credits
Prerequisite: Permission. Theory and application of pressure tubes, loop detectors, and imaging sensors, microwave, infrared, ultrasonic, laser detectors, parameter estimation, reliability, and data mining and fusion.

668 ADVANCED ENGINEERING MATERIALS 3 credits
Prerequisite: Permission of advisor. A relevant problem in civil engineering for students electing this course.

670 ADVANCED SEAL DESIGN 3 credits
Properties of steel, fasteners, bearings, friction joints, Gusset plates, bolts in tension, end plate design, welds, joints, cyclic loads, fatigue analysis, types of detail, torsion, stability design.

677 MECHANICAL METHODS IN STRUCTURAL ENGINEERING 3 credits
Prerequisites: 682 and 3450:531. Navier and Levy solutions for rectangular plates. Approximate methods, including finite difference. Forces in middle plant. Large deflections. Differential equations, related physical/chemical processes, the impact on design-activated sludge, fixed film processes, and design of wastewater treatment processes.
FINITE ELEMENT ANALYSIS II  3 credits
Prerequisite: 609 and 702 or permission. Curved, plate, shell brick elements. Quasi-analytical elements. Quadrature formulas. Substructuring for static and dynamic analyses. Solution algorithms for linear and nonlinear static and dynamic analysis. Computer program formulation. Review of large-scale production programs.

ADVANCED COMPOSITE MECHANICS  3 credits

DYNAMIC PLASTICITY  3 credits
Prerequisite: 585 or 583. 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.

SOIL DYNAMICS  3 credits
Prerequisite: 709 or permission. Vibration and wave propagation theory relating to soil systems and foundations. Dynamic behavior of soils. Design of foundations for dynamic loading impact, pulsating and blast loads.

BIOREMEDIATION  3 credits
Prerequisite: 621 or permission. Provide the fundamentals required for understanding and successfully implementing the biodegradation of hazardous compounds coupled with the design and operational techniques of bioremediation systems.

476 SEEPAGE  2 credits
Discussion of parameters determining permeability of various soils. Analytical, numerical and experimental methods to determine two- or three-dimensional movement of groundwater. Unsteady flows.

PRELIMINARY RESEARCH  1-5 credits
(May be taken more than once.) Prerequisite: approval of dissertation director. Preliminary investigations prior to the submission of a dissertation proposal to the interdisciplinary Doctoral Committee.

DOCTORAL DISSERTATION  1-5 credits
(May be taken more than once.) Prerequisite: acceptance of research proposal by the Interdisciplinary 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, optical communication network design.

549 DIGITAL COMMUNICATION  3 credits
Introduction to digital communication theory and systems; coding of analog and digital information; digital modulation techniques. Introduction to information theory.

553 ANTENNA THEORY  3 credits

555 MICROWAVES  4 credits
Dynamic fields, Maxwell's equation and wave equations. Field analysis of waveguides, microwave components, techniques and systems.

557 WIRELESS COMMUNICATIONS  3 credits
Prerequisite: 549. Theory and analysis of wireless communication systems, wireless propagation, multiple access, modulation, demodulation, multipath channel characterization, diversity, cellular, and PCS services and standards.

561 OPTICAL ELECTRONICS AND PHOTONIC DEVICES  3 credits
Prerequisite: 557. Photonic principles and optical electronic device technology.

566 PROGRAMMABLE LOGIC  4 credits
Electronic circuitry considerations in logic methods, sequential threshold logic and design. Development of a computer arithmetic elements; memory, storage devices, and embedded microcontrollers.

570 EMBEDDED SYSTEMS INTERFACING  3 credits
Prerequisite: Permission by instructor. Microcontroller structures and embedded peripherals. Interfaces to physical environments. Software access to peripherals, timers, ADCs and DACs. Synchronization and asynchronous communications. Interrupts. Real-time operating systems.

572 CONTROL SYSTEMS II  3 credits
State variable analysis, design of control systems. Discrete systems, analysis, digital control algorithms. Experiments include hybrid, AC control system, digital computer control.

575 SYSTEM SIMULATION  3 credits
Computer simulation of dynamic systems. Discrete system stability, linear multistep and Runge-Kutta methods, nonlinear systems, stiff systems, distributed systems and real-time computing.

583 POWER ELECTRONICS I  3 credits
Prerequisite: 580 or permission. Fundamentals of power electronics circuits. Rectifiers, converters, inverters analysis and design.

584 POWER ELECTRONICS LABORATORY AND DESIGN PROJECT  2 credits
Prerequisite: 583 or equivalent. Experiments on different types of power electronic converters: AC/DC, DC/DC, DC/AC, and AC/AC. Design project to include design, simulation, building, and testing of a power electronic circuit.

585 ELECTRIC MOTOR DRIVES  3 credits
Application of electric machines, choice of motor for particular drive. Application of power semiconductors circuits in electric machinery.

589 DESIGN OF ELECTRIC AND HYBRID VEHICLES  3 credits

589 SPECIAL TOPICS: ELECTRICAL ENGINEERING  3 credits
Individual topics, (May be taken more than once.) Prerequisite: permission of department chair. Special topics in electrical engineering.

641 RANDOM SIGNAL ANALYSIS  3 credits
Analysis, interpretation and smoothing 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: 641 or permission. Sources, channels, entropy, mutual information, source coding theorem and channel coding theorem. Channel coding theorem for waveform channels. Introduction to rate-distortion theory.

646 DIGITAL SIGNAL PROCESSING  3 credits
Relations between continuous- and discrete-time Fourier expansions. Sampling, aliasing, sampling-rate conversion. Operator concepts in signal processing, aliasless systems, FFT, digital filter design.

647 DIGITAL SPECTRAL ANALYSIS AND SIGNAL MODELING  3 credits
Prerequisite: 646 or permission of instructor. Methods and theory of spectral analysis and signal modeling are investigated in detail. Applications of theory include speech processing, biological systems, digital communications.

648 OPTICAL NETWORK ARCHITECTURE  3 credits
Prerequisite: 548. Principles of optical network architecture, analysis, design, control, and fault management.

651 PLASMA PHYSICS II  3 credits
Prerequisite: 650 or permission of the course instructor. Analytic and numerical techniques for electromagnetic fields, conformal mapping, finite difference method, finite element method, and the method of moments.

653 COMMUTATIONAL ANTENNA THEORY AND DESIGN  3 credits
Prerequisite: 563 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.

654 SIMULATION OF NANOSCALE AND MOLECULAR-SCALE SYSTEMS  3 credits
The course describes modern simulation techniques for the analysis of nanoscale phenomena. Molecular dynamics, fast algorithms for multiscale and multiparticle systems, ab initio methods in electronic structure calculation.

735 NONLINEAR CONTROL  3 credits
Prerequisite: 644 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, conservave systems, Lagunov theory, bifurcation of attractors, and routes to chaos.

736 CONTROL SYSTEM THEORY  3 credits
Advanced control theory for linear systems. Controllability, observability, minimal realizations of multivariable systems, stability, state variable feedback, estimation, and an introduction to optimal control.

777 OPTIMAL CONTROL I  3 credits
Prerequisite: 674. Formulation of optimal problems. Exploration of variational calculus, maximum principle and optimality principles to control problems. Computational techniques in optimization.

780 DYNAMICS AND CONTROL OF POWER ELECTRIC CIRCUITS  3 credits
Prerequisites: 563 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.

786 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.

788 POWER ELECTRONICS II  3 credits
Prerequisite: 586 or equivalent. Effects of the nonidealities of the power circuit components, magnetic, and gate to drive, thyristor commutation circuits, heat transfer and thermal issues. Analysis and design of advanced power circuits.

789 CONTROLED ELECTRIC MACHINES  3 credits
Prerequisite: graduate status in Electrical Engineering. Elements of control circuits for electric drives, techniques for torque/speed control of electric machines.

789 POWER SEMICONDUCTOR DEVICES  3 credits
Prerequisite: graduate status in Electrical Engineering. Structure and physics of power semiconductor devices: diodes, Bipolar junction transistors, MOSFETs, Thyristors, Power MOS-Bipolar devices (IGCT/MT). Emphasis on the issues that characterize these devices from the lower power semiconductor devices.

793 SPECIAL PROBLEMS  1-3 credits
May be taken more than once. Prerequisite: permission of department chair. For a qualified graduate student. Supervised research or investigation in major field of training or experience. Credits dependent upon nature and extent of project.

988 MASTER’S RESEARCH  1-15 credits
Prerequisite: Permission of advisor. (May be repeated.) Research on a suitable topic in electrical engineering culminating in a master’s thesis.

989 MASTER’S THESIS  1-15 credits
Prerequisite: permission of department chair. Research and thesis on some suitable topic in electrical engineering.

753 TOPICS IN ELECTROMAGNETICS  3 credits
Prerequisite: 651. Introduction to advanced techniques in fields. Topics include application of Green’s function techniques and related boundary value problems.

772 MODEL REDUCTION TECHNIQUES FOR CONTROL SYSTEMS  3 credits
Prerequisite: 674 or permission of the instructor. Classical, modern, and optimal techniques for computing reduced order models of linear, nonlinear, and infinite dimensional systems. Minimal realizations of multiple-variable systems are also considered.

770 DYNAMIC LINEAR CONTROL SYSTEMS  3 credits
Prerequisite: 674 and a course in Real Analysis or equivalent. Covers topics related to the design of robust control systems. The synthesis of controllers which yield stable closed-loop systems will be considered. The H2-optimality criterion for controller design is included. Special emphasis will be given to the robust stabilization problem and the disturbance attenuation problem.

775 ROBUST CONTROL  3 credits
Prerequisite: 674. Input-output and state-space characterizations of robust control systems, and design techniques based on the algebraic Riccati equation. Decentralized and decentralized control design methodologies.
MECHANICAL ENGINEERING 4600:

500 THERMAL SYSTEM COMPONENTS 3 credits
Prerequisite: 300. Performance analysis and design of basic components of thermal energy exchange and con-

version systems. Components studied include heat exchangers, pumps, compressors, tur-

bines and expansion engines.

510 HEATING AND AIR CONDITIONING 3 credits
Thermodynamics of gas mixtures. Design and selection of air conditioning equipment. Con-
trol of gas mixtures, heating, cooling, and humidity.

511 APPLIED FLUID MECHANICS 3 credits
Subsonic and supersonic flow in nozzles, diffusers, and ducts. One-dimensional reactive gas dynami-
cs. Prandtl-Meyer theory. Applications to design and analysis of compressors, turbines, and

512 FUNDAMENTALS OF FLIGHT 3 credits
Introduction to basic aerodynamics, airplane performance, stability and control, and propulsion. Design considerations are emphasized.

513 INTRODUCTION TO AERODYNAMICS 3 credits
Introduction of aerodynamic concepts, conformal transformations, theory of thin airfoils, 2-
dimensional and sectional flow, lifting line theory, laminar and turbulent boundary layers, and

514 INTRODUCTION TO AEROSPACE PROPULSION 3 credits
Introduction to propulsion systems currently used in aerospace fields; propulsion principles for

flying vehicles, rocket propulsion, and electrical rocket propulsion.

515 ENERGY CONVERSION 3 credits
Topics from fields of internal combustion engines, cycle analysis, modern conversion devices.

516 HEAT TRANSFER PROCESSES 3 credits
Analysis of design of extended surfaces. Natural convection and mixed convection, non-Dir-

nich modes of heat transfer with phase changes.

522 EXPERIMENTAL STRESS ANALYSIS I 3 credits
Experimental methods of determining stress or strain: brittle lacquer, strain gages, photo-

elasticity, full field thermal techniques.

530 MACHINE DYNAMICS 3 credits
Static and dynamic forces in machines, processes of inertia, dynamic equivalence, flywheels.

531 FUNDAMENTALS OF MECHANICAL VIBRATIONS 3 credits
Undamped and forced vibrations of systems having one or two degrees of freedom.

532 VEHICLE DYNAMICS 3 credits
Application of dynamic systems analysis techniques to road vehicles. Newtonian and

Lagrangian methods. Tire-road interface. Ride characteristics, handling and stability. Digital

simulation.

540 SYSTEM DYNAMICS AND CONTROL 4 credits
Prerequisites: Permission by instructor. Laplace transforms. Mathematical models of physical

systems. Transient response and stability. Error analysis and system accuracy. Root locus

methods in design. Frequency analysis and design. Compensation techniques.

541 CONTROL SYSTEMS DESIGN 3 credits
Methods of feedback control design such as minimized error, root-locus, frequency domain.

Compensation techniques. Multivariable and nonlinear design methods and computer-aide-
d control design.

542 INDUSTRIAL AUTOMATIC CONTROL 3 credits
Operation of basic control systems. Study of mechanical, hydraulic, pneumatic, fluidic

control systems, including application areas. Tuning of control devices for optimum perfor-
mance of system. Case studies on control applications from industry, e.g. boilers, furnaces,

process heaters.

543 OPTIMIZATION METHODS IN MECHANICAL ENGINEERING 3 credits
Optimization and methods of solution of optimization problems in mechanical engineering.

The use of dynamic programming and operational research methods for optimization includ-
ging computer utilization and applications.

544 ROBOT DESIGN, CONTROL AND APPLICATION 3 credits
Robotics and control, computer-aided design, simulations, velocities and accelerations, both tra-

ectories and dynamics, control and sensing in robotics. The automated factory with robot ap-

lications.

550 INTRODUCTION TO COMPUTATIONAL FLUID FLOW AND CONVECTION 3 credits
Numerical modeling of fluid/thermal systems, numerical solution of the momentum and ther-
mal boundary layer equations; flow simulation using advanced heat transfer/fluiddynamics
packages.

552 PRESSURE VESSEL DESIGN 3 credits
Introduction to modern pressure vessel technology. Topics include basic structural considera-
tions, materials and their environment and design-construction features.

553 COMPUTER AIDED DESIGN AND MANUFACTURING 3 credits
The use of computer systems to assist in the creation, modification, analysis, or optimization of
designs, and to plan, manage, and control manufacturing plants.

560 GAS DYNAMICS 3 credits
Prerequisite: Sill. Derivation of equations for multi-dimensional inviscid flow of a com-

Transonic flow. One dimensional unsteady flow.

568 THERMODYNAMICS 3 credits
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.

569 FINITE ELEMENT ANALYSIS I 3 credits
Prerequisite: 222. Introduction to development of finite element method as applied to various top-

ics from continuum mechanics. Areas covered include plate; axisymmetric and 3D stress analy-

sis; conduction; fluid mechanics; transient problems and geometric and material nonlinearity.

560 DYNAMICS OF VISCOS FLOW I 3 credits
Derivation and solution of equations governing laminar viscous flow. Applications include

unsteady flows, slow viscous flows, parallel flows, lubrication theory and laminar boundary

layers.

561 COMPUTATIONAL FLUID DYNAMICS I 3 credits
Prerequisite: Sill or permission of instructor. Study of numerical methods in fluids; numerical

errors and stability, finite difference and finite element convection terms, Poisson equations, bound-
ary conditions, turbulence, spectral and finite element techniques.

565 CONDUCTION HEAT TRANSFER 3 credits
Study of one-, two- and three-dimensional heat conduction. Development of analytical tech-

niques for analysis and design.

566 CONVECTION HEAT TRANSFER 3 credits
Heat transfer from laminar, turbulent external, internal flows. Convective heat transfer at high
velocities. Heat transfer to liquid metals, high Prandtl number fluids.

567 RADIATION HEAT TRANSFER 3 credits
Study of governing radiation laws. Black and real systems, geometric factors, gray enclosures,

non-gray systems, gaseous radiation, radiation equipment.

568 BOILING HEAT TRANSFER AND TWO-PHASE FLOW 3 credits
Current techniques to determine heat transfer and pressure drop in components such as boil-
ers, heat exchangers, and steam generators, with boiling. Boiling mechanism, slip ratio, criti-
cal heat flux and instabilities in boiling flow systems.

569 EXPERIMENTAL STRESS ANALYSIS I 3 credits
Prerequisite: 522. Dynamic strain gage methods, transducer design. More fringe techniques
and topics in photoelasticity.

571 INTRODUCTION TO TIRE MECHANICS 3 credits
Prerequisite: permission. Focus on tire as vehicle component, tire traction and wear; lamina-
ted structures, tire stress and strains and advanced tire models.

572 CONTINUUM MECHANICS 3 credits
Applications of stress and deformation at a point. Derivation of fundamental field equations of

linear and solid mechanics by applying basic laws of dynamics, conservation of mass and energy.

Development of constitutive laws.

573 APLI STRESS ANALYSIS I 3 credits
Prerequisite: 222. Continuation of 222 with specific application to solid mechanics. Develop-
ment of energy theorems due to Reissner, Wasinghuzi and generalized Hamilton’s principle. Solu-
tions to static and dynamic problems.

574 FUNDAMENTAL OF FRACTURE MECHANICS 3 credits
Prerequisite: 622 or permission of instructor. Methods of stress analysis in elastic media con-
taining holes and cracks. Theories of brittle fracture. Dynamic crack propagation. Fatigue frac-
tures. Finite element approaches to fracture mechanics.
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530 DESIGN OF MEDICAL IMAGING SYSTEMS 3 credits
Prerequisites: Permission of instructor. Physical principles and engineering design of medical imaging systems, with emphasis on digital radiography, computed tomography, nuclear medicine, ultrasound and magnetic resonance.

535 IMAGE SCIENCE 3 credits
Prerequisites: Permission of the instructor. Principles of image science, image performance parameters and image processing techniques of medical imaging systems, with emphasis on digital radiography, tomographic imaging, ultrasound and magnetic resonance.

537 PHYSICS OF MEDICAL IMAGING 3 credits
Principles of medical imaging modalities with emphasis on the properties, general mechanisms and interaction of radiation with matter, physics of the image formation and optimization.

560 EXPERIMENTAL TECHNIQUES IN BIOMECHANICS 3 credits
Prerequisites: Permission. Principles of testing and measuring devices commonly used for biofuid and biomechanics studies. Laboratories for demonstration and hands-on experience.

570 HUMAN FACTORS ENGINEERING 3 credits
Reliability and human error; human capabilities and limitations, crew protection, display systems, controls and controlling actions, interface design principles, risk management, safety and accident prevention.

600 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.

601 BIOMEDICAL INSTRUMENTATION I 4 credits
Prerequisites: 3200:561, 562. Clinical instrumentation to measure and display physiologic and anatomic parameters. Basic concepts of instrumentation including design criteria and operational analysis. Practical experience gained through the use of instrumented mammalian models.

610 BIODEVices 3 credits
Prerequisites: permission of the instructor. Engineering principles of nanotechnology as applied to biomaterials at the microscopic level, at one billionth of a meter.

630 BIOMEDICAL COMPUTING 3 credits
Prerequisites: permission of instructor. Concepts of medical computing architectures. Comparisons will be made with traditional serial machines and applications for which neural networks seem most promising will be examined.

631 BIOMEDICAL SIGNALS ANALYSIS 3 credits
Prerequisites: Permission. Study of various sensory modalities from a systems engineering perspective. Techniques from linear and nonlinear systems analysis are applied to aspects of vision, hearing, touch, and position sensing in humans. Comparisons are made with artificial emulations of these senses.

632 PROCESSING OF BIOMEDICAL SIGNALS 3 credits
Prerequisites: graduate standing in the College of Engineering and 611 or equivalent. Concepts for the analysis of biological continuous signals and joint processes including discriminant and analysis of component analysis, histograms, correlograms and data displays.

634 IMAGE PROCESSING FOR BIOMEDICAL DATA 3 credits
Image sampling, quantization, and transforms. Enhancements including smoothing and sharpening. Restoration using inverse and Wiener filters. Edge detection and thresholding with region growing for segmentation.

635 ADVANCES IN DRUG AND GENE DELIVERY SYSTEMS 3 credits
This course will examine technological innovations for the delivery of drugs and genes. Methods of introducing drugs and genes into the body, modeling drug transport, and metabolic responses of cells and organs will be analyzed.

636 BIOMEDICAL COMPUTING 3 credits
Prerequisites: acceptance of research proposal by the Interdisciplinary Doctoral Committee and prior to the submission of a dissertation proposal to the Interdisciplinary Doctoral Committee. (May be repeated) Prerequisite: Approval of the dissertation director. Preliminary investigations and limited research, design, and business. Specialized areas of study as defined by the instructor.

645 MECHANICS IN PHYSIOLOGY AND MEDICINE 3 credits
Prerequisites: Permission of instructor. Physical principles and engineering design of medical imaging systems, with emphasis on digital radiography, computed tomography, nuclear medicine, ultrasound and magnetic resonance.

647 KINEMATICS OF THE HUMAN BODY 3 credits
Prerequisites: Graduate standing in the College of Engineering or permission. Analytical methods used to model and quantify human body motion. Three-dimensional kinematics, joint coordinate systems, functional anatomy, segment center of mass and joint centers.

650 CARDIOVASCULAR DYNAMICS 3 credits
Prerequisites: 3200:561, 562 or equivalent. Cardiovascular disease conditions, instrumentation and techniques (both invasive and noninvasive) used for diagnosis. Direct interaction with active clinical laboratory.

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
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.

655 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, prosthetics and orthotics, bedside mechanics, emerging technologies.

660 BIOMATERIALS AND LABORATORY 4 credits
Corequisites: Biomedical Materials. Laboratory. Material uses in biological applications. Effect of physiological environment and sterilization on materials. Controlled and uncontrolled degradation. Effect of materials on soft tissue, hard tissue and blood. Laboratory experiments using materials designed for biomedical use and demonstrations of biological/materials interactions.

661 ADVANCED BIOMATERIALS 3 credits
Prerequisites: 660 or permission of instructor. The objective of this course is to provide the fundamental understanding of the host responses when exposed to various implantable biomedical devices. Methods for testing biocompatibility will be analyzed.

663 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 variety of artificial organs, with emphasis on the artificial heart and artificial kidney.

665 BIOMATERIALS AND TISSUE ENGINEERING METHODS 3 credits
Prerequisites: 651, 660 or permission of instructor. Corequisites: 661 or permission of instructor. This course is designed to equip students with knowledge and skills to evaluate biomaterials and to design scaffolds for tissue engineering. Analytical techniques include principles of microscopy, cell culture techniques, and biocompatibility testing.

670 MATHEMATICAL MODELLING IN BIOLOGY AND MEDICINE 3 credits
Prerequisites: Graduate standing in engineering, mathematics, or physics; or permission of instructor. Modeling of pharmacokinetic, cardiovascular, neurovascular, and immune systems, and artificial organ interactions. Deterministic and stochastic approaches.

685 MEDICAL DEVICES AND ARTIFICIAL ORGANS 3 credits
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of instructor. Design of medical devices and artificial organs, requirements, safety considerations, tissue constraints, optimization techniques, government regulations, and legal liability.

687 SPECIAL TOPICS IN BIOMEDICAL ENGINEERING 1-6 credits
May be repeated. Specialized areas of study as defined by the instructor.

698 MASTER’S RESEARCH 16 credits
Prerequisites: Permission of advisor. (May be repeated) Research on a suitable topic in biomedical engineering culminating in a master’s thesis.

699 MASTER’S THESIS 16 credits
Prerequisite: permission of advisor. (May be repeated) Supervised research in the specific area of biomedical engineering.

730 FABRICATION AND DESIGN OF MICROSENSORS 3 credits
Prerequisites: permission of instructor. Principles of image science, image performance parameters and image processing techniques of medical imaging systems, with emphasis on digital radiography, tomographic imaging, ultrasound and magnetic resonance.

735 IMAGE DETECTORS AND SENSORS 3 credits
An introductory course designed to develop a deep knowledge of detector and sensing systems for Medical Imaging and Diagnostic Applications.

898 PRELIMINARY RESEARCH 1-15 credits
May be repeated. Prerequisite: Approval of the dissertation director. Preliminary investigations and preparation of dissertation proposal to the Interdisciplinary Doctoral Committee.

899 DOCTORAL DISSERTATION 15 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.

512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS 3 credits (20 clinical hours)
Design, adaptation and preparation of instructional materials using graphics, transparency production, video equipment, computer-aiding software, mounting and laminating processes, photography and other procedures.

520 INTRODUCTION TO INSTRUCTIONAL COMPUTING 3 credits
Prepares the student in the use of instructional technologies in educational and business settings. Segments of the course are offered in an online format.
590,12 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. Intended to provide a foundation for understanding of questions of modern society and education.

602 COMPARATIVE AND INTERNATIONAL EDUCATION 3 credits
Comparative study of selected school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education are investigated.

604 TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION 3 credits
Issues and subjects related to study of educational institutions, theories and ideas. Different 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 selection and alternative arrangements of computer services.

620 PSYCHOLOGY OF INSTRUCTION FOR TEACHING AND LEARNING 3 credits
Current theories and research in the areas of cognition and learning, development, and motivation that underlay approaches to teaching in any context.

624 SEMINAR: EDUCATIONAL PSYCHOLOGY 3 credits
May be repeated for a total of six credits. In-depth study of research in selected areas of learning, development, evaluation and motivation.

630 INSTRUCTIONAL LEARNING 1 credit
The nature, purpose, history and philosophy of e-learning will be explored through examination of connected trends and issues. Establishment of a learning community will be addressed in the face-to-face course component. E-learning course/certification overviews will be discussed.

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.

634 WEB-BASED LEARNING SYSTEMS 6 credits
The purpose of this course is to help students become proficient in the design and development of web-based learning systems for training and education. Delivered in face-to-face web-enhanced format and fully online format.

635 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 paradigms.

636 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.

638 EMERGING TECHNOLOGIES FOR INSTRUCTION 3 credits
This course examines current and emerging technologies (hardware, software, systems) that support teaching/learning, and methods for assessing the utility of any technology used for instructional purposes.

665 TOPICAL SEMINAR IN EDUCATIONAL TECHNOLOGY 3 credits
May be repeated for up to nine credits. Current trends and practices in educational technology: computer authoring software, tools and processes for instructional video production, presentation software, hypermedia, interactive multimedia, and computer mediated communication.

670 PHILOSOPHIES OF EDUCATIONAL TECHNOLOGY 3 credits
To introduce students to the many philosophies of educational technology and the manner in which philosophy and technology especially influence their pedagogy.

675 INTEGRATING AND IMPLEMENTING 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.

690 SPECIALED FOR ON-LINE LEARNING 3 credits
This course will prepare instructors to make the transition from teaching in a physical classroom to facilitating learning in an increasingly virtual classroom. Delivered in face-to-face web-enhanced format and fully online format.

690 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.

692 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 emphasized. The student will develop extended competence with contemporary measurement and evaluation techniques.

694 MULTICULTURAL COUNSELING 3 credits
Prerequisites: 6550:643 or permission of instructor. An examination of multicultural counseling theory and research necessary to work with culturally diverse people.

695 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
Prerequisites: permission of department chair and instructor. Area determined in accordance with student's program and professional goals.

695 MASTER’S TECHNOLOGY PROJECT 2-3 credits
Prerequisites: permission of research committee and advisor. Prepare and test a technology learning package that includes any combination of text, graphics, sound, color, motion, and the provision for interaction by the target students.

695 INDEPENDENT STUDY 1-3 credits
May be repeated for a total of six credits) Prerequisites: permission of department chair and instructor. Specific area of study determined in accordance with student's program and professional goals.

695 MASTER’S PROJECT 2-4 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.

699 MASTER’S THESIS 4-6 credits
Prerequisites: permission of department chair and instructor. In-depth study of research problems within humanistic and social dimensions.

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: 600 or equivalent. History and philosophy related to genesis and development of higher education in the Western world, with special emphasis given to higher education's development in the United States. Delivered in face-to-face web-enhanced format and fully online format.

705 SEMINAR: SOCIAL-PHILOSOPHICAL FUNDATIONS OF EDUCATION 3 credits
May be repeated for a total of six credits) Prerequisites: Admission to a College of Education doctoral program or permission. Inquiry into selected idealogical, social, economic and philosophical factors affecting educational development in United States and other countries.

710 ADVANCED LEARNING, DEVELOPMENT, AND MOTIVATION 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Emerging theories of intelligence; theories of adult learning, stage theories of adult cognitive, conceptual, and moral development; life cycle development, adult-like transitions.

711 LEARNING PROCESSES 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Study of principles underlying classroom learning processes with particular emphasis on teaching as means of modifying pupil behavior; cognitive, motor, social and affective.

712 TEACHER BEHAVIOR AND INSTRUCTION 3 credits
Prerequisite: permission of department chair and instructor. Emphasis on teacher behavior and the design of instruction. Emphasis on the use of research in traditional and contemporary instructional strategies.

713 RESEARCH DESIGN 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Topics include problem statement, research questions, literature review, choosing a sample, selecting a research design, data collection method, and ethical and legal issues.

740 DATA COLLECTION METHODS 3 credits
Prerequisites: 740 and admission to a College of Education doctoral program or permission. Emphasis on selecting, designing, and conducting common data collection methods in education and social science research including standardized tests, inventories, questionnaires, focus groups, and content analysis.

741 STATISTICS IN EDUCATION I 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Statistical methods and techniques used in educational measurement and in educational research. Emphasis on hypothesis testing.

743 ADVANCED EDUCATIONAL STATISTICS 3 credits
Prerequisite: 741 and admission to a College of Education doctoral program or permission. Emphasis on interpreting advanced statistical results in education and the social sciences.

746 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.

746 QUALITATIVE METHODS II 3 credits
Prerequisite: 746: 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 specific problem in educational foundations.

801 RESEARCH SEMINAR 3 credits
Prerequisite: permission of department chair and instructor. Critical and in-depth study of specific problem in educational foundations.

807 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 education 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.

510 ORGANIZATIONAL LEADERSHIP 3 credits
Prerequisite: 5100:640. A perspective of educational leadership and the context in which it operates, with emphasis on the processes, tasks, roles and relationships involved. Field based research required.

620 MANAGEMENT OF PHYSICAL RESOURCES 3 credits
A comprehensive view of the principles, practices, and new dimensions involved in the planning and management of educational facilities.

623 MANAGEMENT OF HUMAN RESOURCES 3 credits
An orientation to the major dimensions of the personnel function.

624 SCHOOL COMMUNITY RELATIONS 3 credits
Prerequisites: 5100:601 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.

626 EVALUATION IN EDUCATIONAL ORGANIZATIONS 3 credits
Prerequisites: 601 and 5100:640. An examination of the general concepts, models, practical applications and considerations involved in the evaluation of educational organizations.

627 SCHOOL LAW 3 credits
Prerequisite: 5100:601 and 5100:640. An examination of the legal principles underlying education in the United States as reflected in statutory provisions, court decisions and administrative orders. Field based research required. Course also available fully online.

628 SCHOOL FINANCE AND ECONOMICS 3 credits
A study of financial operations of school systems, including taxes, other sources of revenue, expenditures, budgeting and effects of economic factors.
609 PRINCIPLES OF CURRICULUM DEVELOPMENT 3 credits
Prerequisites: 601 and 5100-640. This course is intended to help the student develop the per-
formance competencies necessary to engage in curriculum decision making.

610 SUPERVISION OF INSTRUCTION 3 credits
Prerequisites: 601 and 5100-640. An introduction to the school function that improves instruc-
tion through direct assistance, curriculum, staff and group development and action research.

613 STUDENT SERVICES AND INTERAGENCY COLLABORATION 3 credits
Prerequisites: 601 and 5100-640. Overview of special services including analysis of the nature
and development of each component and program and discussion of current issues and trends.

615 DISABILITY LAW 3 credits
The course examines the law of special education and the legal requirements obligating school
districts to protect the affirmative rights of persons with disabilities. Emphasis is placed on
knowing and applying the law to school practices. Course also available online.

620 SCHOOL CULTURE AND GOVERNANCE 3 credits
An examination of the role it relates to the development and maintenance of a school cli-
mate and culture conducive to teaching and learning.

695,6 PRINCIPAL INTERNSHIP 3 credits each
Students are required to successfully complete a two-semester internship in a school district
chosen by the student and his/her advisor.

697 INDEPENDENT STUDY 1-3 credits
Prerequisites: permission of advisor and supervisor of the independent study. Area of study
chosen by the student and his/her advisor.

704 ADVANCED ORGANIZATIONAL LEADERSHIP 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Study
of organizations and strengths and weaknesses of common methods of administering them.
Practical means by which overcoming bureaucratic weaknesses of bureaucracies are offset or
lessened by educational institutions.

705 DECISION MAKING IN EDUCATIONAL ADMINISTRATION 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Decision
making is portrayed as a central function of the educational administrator with a united pre-
sentation of the theory, research and practice of decision making.

706 THE SUPERINTENDENCY 3 credits
An orientation to the superintendent’s role and an examination of the strategies for dealing
with the multiple relational and functional aspects of the superintendency.

708 ECONOMICS IN EDUCATION 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Issues
related to the changing marketplace of public, private schooling and higher education institu-
tions as they relate to an urban environment.

709 ADVANCED PRINCIPLES OF CURRICULUM DEVELOPMENT 3 credits
A second course in curriculum development with an emphasis on the performance compe-
tencies needed to engage in curriculum planning and decision making.

710 ADVANCED SCHOOL LAW 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. An in-
depth study of the law as it pertains to the function and role of the administrator as instruc-
tional leader; disciplinarian; building, facilities, and auxiliary services manager.

716 ADVANCED EVALUATION OF EDUCATIONAL ORGANIZATIONS 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. An eval-
uation course to help educational leaders plan and assess educational priorities and outcomes.

720 TOPOCAL SEMINAR 1-3 credits
May be repeated for a total of six credits.Prerequisites: Admission to a College of Educa-
tion doctoral program or permission. An intensive examination of a particular area of Educa-
tional Leadership.

730 RESIDENCY SEMINAR 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Focus on
recent research in administration and educational administration theory.

731 RESIDENCY SEMINAR 3 credits
Prerequisites: 601. Focus on recent research in administration and educational administration
theory.

732 PUBLIC AND MEDIA RELATIONS IN EDUCATIONAL ORGANIZATIONS 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. A course
in educational public relations intended to help educational leaders facilitate the development
of common perceptions about school issues with multiple constituencies.

734 THEOLOGICAL EDUCATIONAL SUPERVISION 3 credits
Extends 601, including supervisory models, staff development, and the organizational envi-
ronment’s impact on the effective supervision.

745 SEMINAR: URBAN EDUCATIONAL ISSUES 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. A study of
the linkages between educational organizations and their social contexts, particularly as they
relate to educational change. Research project required.

746 POLICTS OF EDUCATION 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Empha-
sis given to recent efforts to introduce reform at all levels of the educational and to
conceptual perspectives and research findings.

756,6 INTERNSHIP IN EDUCATIONAL ADMINISTRATION 3 credits
Prerequisites: Admission to a College of Education doctoral program or permission. Candidates
are required to successfully complete a two-semester internship in a school district chosen by
the student and his/her advisor.

895,9 DOCTORAL INTERNSHIP 1-6 credits
Prerequisites: Candidates for the doctoral degree in educational administration must prepare and complete
a research proposal that includes research questions, a literature review, and a research
design. They must collect, analyze, and interpret data.

897 INDEPENDENT STUDY 1-3 credits
Prerequisites: permission of advisor. In-depth study of a research problem in education. Stu-
dent must be able to develop critical and analytical skills in dealing with a problem in edu-
cation. (May be repeated for a total of six credits.)

899 DOCTORAL DISSERTATION 1-20 credits
Prerequisites: permission of advisor. Specific research problem that requires student to apply
research skills and techniques to the problem being studied.

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.

5190: 521 LAW AND HIGHER EDUCATION 3 credits
Legal aspects of higher education, sources of law and authority presented; impact on, inter-
ference with, 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 edu-
cation.

527 THE AMERICAN COLLEGE STUDENT 3 credits
Introduction to the sociopolitical literature concerning the impact of college on students
and student development theory.

530 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING 3 credits
Study of curriculum planning at the college and university 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 leader behavior appropriate to the college or university setting. Delivered in face-to-face
web-enhanced format and fully online format.

590,6 ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 3 credits
Prerequisite: permission. (To be taken during student’s final semester of coursework) Examina-
tion of higher education administration perspectives and issues, including those that pose
particular concern to students. Capstone experience for students poised for program com-
pletion.

601 INTERNSHIP IN HIGHER EDUCATION 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission; corequisite: 902. Inten-
tive work experience in operations of an institution of higher education, related to student’s
major or sub-specialization.

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 expe-
rience and to provide theEntrance to the theory, research and practice of decision making.

616,6 FINANCE AND HIGHER EDUCATION 3 credits
Facilitating students’ understanding of American Higher Education is financed by various
methodologies used, and political and economic impact processes involved.

630 POLICY, ASSESSMENT, AND ACCOUNTABILITY IN HIGHER EDUCATION 3 credits
Prerequisites: student with a background in American Higher Education is financed by various
methodologies used, and political and economic impact processes involved.

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
Selected 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
Describes characteristics of the postsecondary learner; studies issues, factors, and strategies
pertinent to successful facilitation of learning in a variety of postsecondary learning environ-
ments. Delivered in face-to-face web-enhanced format and fully online format.

501 LEARNING WITH TECHNOLOGY 3 credits
An overview of informational learning and research technologies used and applied in work-
force education and training for lifelong/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
History and operations of various educational systems, including Web-based learn-
games. Delivered in face-to-face web-enhanced format and fully online format.

515 MANAGING IN BUSINESS 3 credits
Prerequisites: permission. (May be repeated.) Topical study in a variety of areas related to
administration and development of each component and program and discussion of current
issues and trends. Field based research required.

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: breaking down occupational to determine curriculum of their laboratory and
classroom, this developing this content into an organized sequence of instructional units. Deliv-
ered in face-to-face web-enhanced format and fully online format.

531 SYSTEMATIC INSTRUCTIONAL DESIGN IN POSTSECONDARY EDUCATION 3 credits
Selected topics in instructional technologies appropriate in postsecondary technical education.
Emphasis on instructional methods, techniques in classroom, laboratory including tests, mea-
surments. Delivered in face-to-face web-enhanced format and fully online format.

541 EDUCATIONAL GERONTOLOGY SEMINAR 3 credits
Designed for person practicing in field of gerontology or preparing for a specialization in edu-
cation in gerontology, including research design, method, and student development theory.

580 SPECIAL TOPICS: WORKFORCE EDUCATION/TRAINING 1-3 credits
Prerequisite: permission of the instructor. Group study of special topics of critical, contempo-ary concern in workforce education/training. Delivered in face-to-face web-enhanced format
and fully online format.

590,1 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.

594 EDUCATIONAL INSTITUTES 1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the sup-
port of national foundations.

116 The University of Akron 2008-2009
600 THE TWO-YEAR COLLEGE 3 credits
Introduces students to the nature, purpose, and philosophy of the two-year college. Includes an examination of two-year colleges, technical schools, proprietary schools, and colleges 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
An examination of the institutional design in educational technology and training. Supports research in effective performance-based program needs, assessment, and evaluation delivered in face-to-face web-enhanced format and fully online format.

620 POSTSECONDARY TEACHER LEADERSHIP 3 credits
An examination of the role of supervisor of postsecondary institutions, facilitation and evaluation of instructional and organizational leaders, 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
Introduction of the nature, purpose, and philosophy of distance learning; examination of current and past trends in distance education. Includes a seminar and portfolio development 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: administration, postsecondary instructors, professional development, as well as related leadership and management issues. Delivered in face-to-face web-enhanced format and fully online format. Delivered in face-to-face web-enhanced format and fully online format.

671 ADVANCED INSTRUCTIONAL APPLICATIONS SEMINAR 3 credits
Provides opportunities for students to learn 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 INTERNSHIP IN POSTSECONDARY EDUCATION 3 credits
Preparation for students interested in teaching at the postsecondary level. Delivered in face-to-face web-enhanced format and fully online format.

695 FIELD EXPERIENCE: MASTER’S 1-6 credits
On-the-job experience related to student’s program of studies. Credit/Noncredit.

699 INDEPENDENT STUDY 1-3 credits
May be repeated for a total of six credits. Area of study determined by student’s needs.

699 MASTER’S PROBLEM 3 credits
May be repeated for a total of six credits. In-depth study of an instructional or curricular problem in the workplace or in the classroom. Student must be able to demonstrate critical, analytical, and problem-solving skills.

700 MASTER’S THESIS 3 credits
May be repeated for a total of six credits. Opportunity to conduct research on a project in workplace education or training. Student must be able to demonstrate needed analytical, evaluation, and basic research skills. Credit/Noncredit.

CURRICULAR AND INSTRUCTIONAL STUDIES 5500: 3 credits

522 CONTENT AREA LITERACY 3 credits
Examines instructional strategies for constructing meaning in content subjects (e.g., science, social studies, mathematics) using print and electronic texts.

524 TEACHING READING TO CULTURALLY DIVERSE LEARNERS 3 credits
Examines instructional strategies for 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 theoretical, cultural, and sociological bases of bilingual/multicultural education and curriculum. Focuses on the development of a multicultural perspective.

541 TEACHING LANGUAGE LITERACY TO SECOND LANGUAGE LEARNERS 4 credits
Course applies methodologies for teaching reading, language arts in the bilingual/multicultural classroom. The bilingual student’s native language is stressed.

542 TEACHING MATHEMATICS, SCIENCE, AND SOCIAL STUDIES TO BILINGUAL STUDENTS 3 credits
Course provides opportunities for students to teach mathematics, science, and social studies to bilingual students in the classroom. Focuses on the development of a multicultural perspective.

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, administration 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.

555 LITERACY FOR MULTILANGUAGE LICENSURE 3 credits
Prerequisite: Admission to Teacher Education program. Organizing instruction, use of oral language development protocols, strategies for word skill development, comprehension and assessment as they relate to content areas.

575 INSTRUCTIONAL TECHNOLOGY APPLICATIONS 3 credits
Focus on developing learner competencies in the use of instructional technologies to enhance both the instructor's personal and professional productivity.

590,1 WORKSHOP 1 credit
Workshop for educators to improve teaching skills in a specific area of the curriculum. May be repeated for a maximum of 6 credits.

592 EDUCATIONAL INSTITUTES 1-3 credits
Special courses designed as in-service upgrading programs. Frequently provided with support of the host school system.

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.

600 NATIONAL TRENDS 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.

615 PHILOSOPHY AND ORGANIZATION OF MIDDLE SCHOOLS 3 credits
Focus on the history, research, and social development of schools, and on the evaluation components of middle level education.

616 MIDDLE SCHOOL CURRICULUM AND INSTRUCTION 3 credits
Focus on the history, research, and social development of schools, and on the evaluation components of middle level education.

617 LICENSURE SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 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 discipline in the middle and secondary school curriculum for students in the Master’s with Licensure program.

619 INSTRUCTIONAL AND MANAGEMENT PRACTICES 3 credits
Prerequisites: 617. Topics include planning and management strategies to become effective in middle and high school classrooms. Also included are educational issues that relate to effective management and instruction.

621 ADVANCED INSTRUCTIONAL TECHNIQUES: MODERN LANGUAGES P 3 credits
Prerequisite: 617 or permission of instructor. Focus is on theories of language acquisition, modern languages, and materials development for the elementary school (P-6), 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 and methods and techniques for presenting literature to children in preschool, elementary, and middle grades.

625 CONSUMER ISSUES IN LITERACY INSTRUCTION AND PHONICS 3 credits
Surveys current research in reading and writing as constructive processes of meaning-making.

626 SPECIAL TOPICS: CURRICULAR AND INSTRUCTIONAL STUDIES 3 credits
Prerequisites: permission of advisor. Topics may include a special topic in foreign language education and language learning theories. Different topics will be offered in section to section.

627 EXPERIENCES IN TEACHING FOREIGN LANGUAGES 3 credits
(Using a foreign language to teach) Focus on research and instructional strategies for teaching foreign languages and cultures in the classroom. 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.

636 THEOLOGY 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 constructivism 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 elementary and secondary learners.

692 FIELD EXPERIENCE: COLLEGIATE 1 credit
Prerequisite: admission to student teaching corequisite: 694. Instructional experience in the 7-12 classroom to apply theory to practice. (May be repeated for a maximum of 6 credits.)

693 FIELD EXPERIENCE: CLASSROOM INSTRUCTION 1-12 credits
Prerequisites: Admission to student teaching corequisite: 692. Planned teaching experience in schools selected and supervised by Office of Extended Education.

695 FIELD EXPERIENCE: MASTER’S WITH LICENSURE 1-3 credits
Instructional experience in the 7-12 classroom to apply theory to practice. (May be repeated for a maximum of 6 credits.)

696 FIELD EXPERIENCE: CLASSROOM INSTRUCTION 1-12 credits
Prerequisites: admission to student teaching corequisite: 692. Planned teaching experience in schools selected and supervised by Office of Extended Experiences.

699 INDEPENDENT STUDY 1-6 credits
In-depth investigation of specific problem pertinent to student’s area of concentration in education.

700 INDEPENDENT STUDY 1-3 credits
Selected areas of independent investigation as determined by advisor and related to student’s academic needs.

700 MASTER’S THESIS 1-6 credits
In-depth study of research problem in education. Student must be able to demonstrate necessary competencies to deal with research problem in education.

701 CURRENT RESEARCH AND THEORY IN SCIENCE EDUCATION 3 credits
Intensive examination of contemporary theory and research literature in science teaching and learning through the pre-school through high school levels.

702 SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 3 credits
(May be repeated) Intensive examination of a particular area of curriculum and instruction.

703 PROFESSIONAL SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES 3 credits
Prerequisite: permission of advisor. Topics may include a special topic in an area of the educational setting.

800 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION 3 credits
Survey of research, comparison and evaluation of programs, design and development of projects in reading through group or individual study.
PHYSICAL EDUCATION 5550:

500 MUSCULOSKELETAL ANATOMY I: UPPER EXTREMITY 3 credits
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
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 SPORTS SOCIOLOGY 3 credits
Provides information to students about the sociological aspects of sport. The course will educate students about gender and sport, race and sport, economics in sport, media and sport, children and sport, and intercollegiate athletics.

522 SPORTS PLANNING/PROMOTION 3 credits
Analysis of current/proving strategies from a sport manager's perspective. Emphasis on marketing strategies, tactics, and development in sport delivery systems.

524 SPORT LEADERSHIP 3 credits
This course has been designed to introduce the students to current issues related to leadership, management, and supervision. Course goal is to examine current sports leadership research as well as the fundamental governance structure of amateur and professional sport organizations.

526 NUTRITION FOR SPORTS 3 credits
This course will provide an explanation of the consumption, absorption, and recommendation for diet of athletes and the physically active individual.

536 FOUNDATIONS AND ELEMENTS OF ADAPTED PHYSICAL EDUCATION 3 credits
Principles, components, and strategies necessary in providing motor activities for handicapped students via application of a neuro-developmental model and alternative methods. Three hour lecture.

538 CARDIAC REHAB PRINCIPLES 3 credits
This course will teach the students the core competencies for cardiac rehab professionals, based upon The American Association of Cardiovascular and Pulmonary Rehabilitation Specialists (AACVPR).

540 INJURY MANAGEMENT FOR TEACHERS AND COACHES 3 credits
This course challenges the graduate student to understand ways to provide and care for the safety of individuals they teach.

541 ADVANCED ATHLETIC INJURY MANAGEMENT: UPPER EXTREMITY 4 credits
This course is designed to cover recognition, evaluation, and rehabilitation of upper extremity injuries as well as general medical pathologies of the upper extremity.

542 THERAPEUTIC MODALITIES AND PHARMACOLOGY 3 credits
This course will teach the student the technical skills and regulation of Sports Medicine personnel in the selection and implementation of therapeutic modalities and drugs.

551 ASSESSMENT AND EVALUATION IN ADAPTED PHYSICAL EDUCATION 3 credits (20 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, primarily team sports. Ten (10) clinical hours required.

562 LEGAL/Ethical ISSUES IN PHYSICAL AND LEISURE ACTIVITIES 2 credits
Legal and contemporary issues of greatest concern to those interested in physical and leisure activity: risk management, playground safety, blood-borne pathogens, ethics.

565 PSYCHOLOGY OF INJURY REHABILITATION 2 credits
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, 1.2 WORKSHOP 3 credits
Practice, intensive, and concentrated involvement with current curricular practices in areas related to physical education.

600 BIOMECHANICS APPLIED TO SPORT AND PHYSICAL ACTIVITY 4 credits
Taining future professionals in an applied approach to qualitative diagnosis of motor skills for a variety of professional settings. Required clinical/field experiences.

601 SPORTS ADMINISTRATION AND SUPERVISION 3 credits
Organizational and management efficiency in implementing sports programs (event management, budgeting, public relations); objective and effective procedures for evaluation/selection of personnel; periodic program reviews.

602 MOTIVATION FOR STUDENTS 3 credits
Coaching education principles related to student motivation and motor skill learning. Focus on effective practices for learning and advanced skills teaching for coaches.

603 TACTICS AND STRATEGIES IN THE SCIENCE OF COACHING 3 credits
Course is designed to teach strategies and tactics, and 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
Function of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions.

606 STATISTICS: QUANTITATIVE AND QUALITATIVE METHODS 3 credits
Prerequisite: 5500-640. Research methods/designs, statistics (application and interpretation). Use of computers and appropriate software as they relate to various disciplines in the area of physical activity.

609 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY 3 credits
Analysis of factors influencing motivation of motor performance with emphasis on competition, audience effects, age/gender differences.

610 TEACHING METHODS AND COACHING 3 credits
To learn about becoming master teachers and coaches, students will apply effective teaching skills, focus on content, and reflect on the teaching/coaching process. Additional 10 clinical/field hours 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.

620 LABORATORY INSTRUMENTATION TECHNIQUES IN EXERCISE PHYSIOLOGY 2 credits
This is a course designed to provide hands-on laboratory experiences for students in the area of exercise science.

680 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION 2-4 credits
May be repeated. Prerequisite: permission of instructor. Group study of special topics in health and physical education and sports medicine.

695 FIELD EXPERIENCE: MASTER'S 16 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.

697 INDEPENDENT STUDY 1-3 credits (May be repeated for a total of 6 hours)
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to physical education. Documentation of the study required.

698 MASTER'S PROBLEM 4-6 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Students must be able to demonstrate critical and analytical skills in dealing with a problem in physical education.

699 MASTER'S THESIS 4-6 credits
Prerequisite: permission of advisor. In-depth research investigation. Students 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
Provides knowledge, skills and techniques useful in application of outdoor education to school curriculum.

552 RESOURCES AND RESOURCE MANAGEMENT FOR THE TEACHING OF OUTDOOR EDUCATION 4 credits
Resources and instructional techniques which are applicable to outdoor education, and in-depth study of methods and design unique to the teaching of outdoor education.

554 RESIDENT OUTDOOR EDUCATION 2 credits
Focus on helping physical education teachers use critical thinking to review programming/organizational techniques relevant to outdoor education programs. Extended experience in outdoor settings required.

556 OUTDOOR PURSUITS 4 credits
Investigation and participation in practical experiences in outdoor pursuits.

590 WORKSHOP: OUTDOOR EDUCATION 1-3 credits
Prerequisite: admission to Graduate School. Intensive practical experience related to outdoor education. Emphasis on participant involvement in educational practices, utilizing the natural environment.

594 EDUCATIONAL INSTITUTES: OUTDOOR EDUCATION 1-4 credits
Prerequisite: permission of advisor. Intensive practical experience related to outdoor education.

600 OUTDOOR EDUCATION: RURAL INFLUENCES 3 credits
Prerequisite: 550 or 552. Utilization of resources of rural area as a learning-teaching environment. Content and methodology appropriate for teaching school-age children in rural settings.

604 OUTDOOR EDUCATION: SPECIAL TOPICS 2-4 credits
May be repeated with change in topic. Prerequisite: permission of instructor. Group and individual study of special topics of contemporary concern in outdoor education.

690 PRACTICUM IN OUTDOOR EDUCATION 2-4 credits (60-180 field hours)
Prerequisite: 550, 552 and permission of advisor. Supervised practical experience with existing outdoor education programs. In conjunction with practical work student meets regularly with advisor.

695 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.

697 INDEPENDENT STUDY 1-3 credits (May be repeated for a total of 6 hours)
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to outdoor education. Documentation of study required.

698 MASTER'S PROBLEM 2-4 credits
Prerequisite: permission of advisor. Intensive research study related to a problem in outdoor education or related discipline.

699 MASTER'S THESIS 4-6 credits
An original research demonstrating 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 comprehensive school health curricula for K-12. The three components of a comprehensive school health program are presented: instructional, curricular, and the environment.

523 METHODS AND MATERIALS OF HEALTH EDUCATION 2 credits
Prerequisite: permission of instructor. Planning, organization, use of instructional resources and delivery of health content and teaching processes (pre K-12).

560 PRACTICUM IN HEALTH EDUCATION 2 credits
Prerequisite: permission of instructor. The practicum in Health Education is an on-site participation in a community health organization, agency, or resource.
COUNSELING 5600:

550 COUNSELING PROBLEMS RELATED TO LIFE-THREATENING ILLNESS AND DEATH 3 credits
Pre-requisite: permission. Consideration of the global issues, current research, coping behavior, support systems and family and individual needs in regard to life-threatening situations.

590 WORKSHOP 1-3 credits
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

600 SEMINAR IN COUNSELING 1 credit
Pre-requisite: Counseling majors must elect 600 prior to electing 651 and/or within the first 10 credits of 600 coursework. Structured group experience designed to help a student assess selection of counseling as a profession.

610 COUNSELING SKILLS FOR TEACHERS 3 credits
Pre-requisite: 631 or 633 or permission. The study and practice of selected counseling techniques that can be applied by teachers in working with students, parents and colleagues.

620 ISSUES IN SEXUALITY FOR COUNSELORS 3 credits
A seminar convening, in addition to changing current topics, sexuality across the lifespan, diversity and sexual orientation, and assessment.

621 COUNSELING YOUTH AT RISK 3 credits
This course is designed to prepare counselors and other helping professionals to work with at risk youth and families in school and community settings.

622 INTRODUCTION TO PLAY THERAPY 3 credits
Pre-requisite: enrolled in a master’s or doctoral program in counseling or related field, or special nondegree students (i.e., professional counselors). This course is designed to give students an introduction to play therapy from a child-centered perspective. Students will develop competencies in child-centered play therapy.

623 MARRIAGE AND FAMILY COUNSELING/ THERAPY ETHICS AND PROFESSIONAL IDENTITY 3 credits
This course is designed to help students learn about marriage and family counseling/therapy as a profession and about it corresponding ethical codes.

631 ELEMENTARY/SECONDARY SCHOOL COUNSELING 3 credits
Introductory class; examines elementary and secondary school counseling practices.

635 COMMUNITY COUNSELING 3 credits
Covers counseling in community and college counseling services; their evaluation, philosophy, organization and administration.

640 COUNSELING ADOLESCENTS 3 credits
Pre-requisite: graduate student in counseling or related field. The examination of the development of identity, cognitive, emotional, and social developmental processes of the adolescent as these affect learning performance in a diverse population will be addressed.

643 COUNSELING THEORY AND PHILOSOPHY 3 credits
Examination of major counseling orientations including client-centered, behavioral and existential theories. Philosophical and theoretical dimension stressed.

647 CAREER DEVELOPMENT AND COUNSELING ACROSS THE LIFE SPAN 3 credits
Overview of career development and choice over the life-span. Personal, family, and societal characteristics that affect choice, career choice, and implementation are discussed.

648 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN 3 credits
An exploration of individual and family development, human behavior, and theories of learning and personality. Emphasis will be placed on understanding the relationship between the individual and the family.

650 FILIAL THERAPY 3 credits
Pre-requisites: 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.

651 TECHNIQUES OF COUNSELING 3 credits
Pre-requisites: 643 and 647. Coursework and practice. Includes counseling techniques and skills with emphasis on structuring, listening, leading and establishing a counseling relationship.

653 GROUP COUNSELING 4 credits
Pre-requisites: 643 and 651. Knowledge and understanding of theory, reservations, and techniques necessary for conducting group counseling sessions. An experimental component is included.

655 MARRIAGE AND FAMILY THEORY: THEORY AND TECHNIQUES 3 credits
An overview of the theory and techniques of marital and family therapy, including exposure to the history, terminology and contributions of significant persons in the field.

657 CONSULTANT COUNSELING 3 credits
Pre-requisites: 651, 653 or permission. Examination of consultation models with focus on practical application.

659 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES 3 credits
Pre-requisite: 633 or permission. Development of a comprehensive articulated guidance and counseling program.

660 COUNSELING CHILDREN 3 credits
Pre-requisite: graduate student in counseling or related field. This course is designed as an entry-level course for counselors, school counsels, school psychologists, or other professionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of childhood disorders.

662 PERSONALITY AND ABNORMAL BEHAVIOR 3 credits
This course will examine current major theoretical approaches to personality and how they account for abnormal and psychopathological behavior related to clinical practice.

663 DEVELOPMENTAL GUIDANCE AND EMOTIONAL EDUCATION 3 credits
An experimental seminar designed for school counselors/teachers to learn developmental guidance strategies for affective education, classroom guidance, deliberate psychologies, and developmental counseling.

664 DSM 3 credits
This course teaches students practical assessment and diagnostic skills related to using the most recent version of the Diagnostic and Statistical Manual of Mental Disorders.

666 TREATMENT IN CLINICAL COUNSELING 3 credits
This course teaches students treatment planning and research-based treatment interventions for preventing and reducing common mental disorders found in the counseling profession.

667 MARITAL THERAPY 3 credits
Pre-requisite: 655. In-depth study of theories and interventions which focus on the nature and quality of marital relationships.

669 SYSTEMS THEORY IN FAMILY THERAPY 3 credits
Pre-requisite: 655. In-depth exploration of systems theory in family therapy. Major assumptions of systems theory will be examined and the implications for interventions will be explored.

675 PRACTICUM IN COUNSELING 5 credits
Pre-requisites: 623, 645, 646, 651, 653, 655, 667, 669, 656, 684, 695. This course will provide marriage and family counseling students with an intensive supervised clinical experience, which includes live supervision and videotape review of therapy sessions.

685 INTERNSHIP 3 credits
Pre-requisite: 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 following completion of 675. Credit/noncredit.

695 FIELD EXPERIENCE: MASTER’S 1-9 credits
Pre-requisites: permission of advisor and department chair. Placement in selected setting for purpose of acquiring experiences and demonstration skills related to student’s counseling program.

697 INDEPENDENT STUDY 1-13 credits
May be repeated for a total of nine credits. Prerequisites: permission of advisor and department chair. Specific area of study determined in accordance with student needs.

702 ADVANCED COUNSELING PRACTICUM 4 credits
May be repeated for a total of 12 credits. Prerequisite: 675, 720, 710. Supervised counseling experience in selected settings.

708 SUPERVISION IN COUNSELING PSYCHOLOGY I, II 4 credits each
Pre-requisites: doctoral residency or permission. Instruction and experience in supervising graduate student in counseling.

709 INTRODUCTION TO COUNSELING PSYCHOLOGY 2 credits
Pre-requisite: graduate standing in the Collaborative Program in Counseling Psychology. Introduction to historical foundations of and recent developments in counseling psychology, with an emphasis on contemporary and interdisciplinary field.

710 THEORIES OF COUNSELING AND PSYCHOTHERAPY 4 credits
Pre-requisite: 630 or departmental permission. Major systems of individual psychOTHERAPY explored within a philosophy of science framework. Freudian, behavioral, Rogerian, cogni-
tive and other. Includes research, contemporary problems and ethics.

711 VOCATIONAL BEHAVIOR 3 credits
Pre-requisites: 650 or departmental permission. Theories and research on vocational behavior and vocational counseling. Topics include major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.

712 PRINCIPLES AND PRACTICE OF INDEPENDENT INTELLIGENCE TESTING 4 credits
Prerequisites: 630 or graduate standing in school psychology, and instructor's permission. History, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of intelligence tests for children and adults.

713 PROFESSIONAL ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY 4 credits
Pre-requisites: doctoral residency or permission. Examination of major issues in the field such as the counselor as a professional and as a person, issues, problems and trends in counseling.

714 OBJECTIVE PERSONALITY EVALUATION 4 credits
Prerequisite: completion of 650. 3750 45205605 and 750-750 or 6500-6505 or per-
mission. Study of the development, administration, and interpretation of objective instruments for personality assessment (MMPI, CPI, MBIT, 16PF and selected additional inventories).

715 RESEARCH DESIGN IN COUNSELING 1 credit
Pre-requisite: doctoral residency or permission. Study of research designs, evaluation proce-
dures and review of current research.

716 RESEARCH DESIGN IN COUNSELING 2 credits
Pre-requisite: research course or permission. This course is designed for doctoral students utilizing the qualitative approach for conducting research. Theory, methods, and design of qual-
itive inquiry are reviewed.

717 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY 4 credits
Pre-requisites: 7350:630; one semester of practicum work. Critical examination and application of research and theory in counseling diverse populations, focusing on race/ethnicity, sexiden-
tiy, sexual orientation, age, disability, and spirituality.

718 HISTORY AND SYSTEMS IN PSYCHOLOGY 2 credits
Pre-requisite: 7350:630. Philosophical and scientific antecedents of psychology and details of the development of systematic views of the 19th and 20th centuries.

720 TOPICAL SEMINAR: COUNSELOR EDUCATION AND SUPERVISION 1-4 credits
Pre-requisite: permission of instructor. A topical study with a variety of disciplinary input. Staffing will be by department faculty and other professionals in counseling and related fields. A maximum of six credits may be applied to a degree.

722 INTRODUCTION TO PLAY THERAPY 3 credits
Pre-requisites: enrolled in a master’s or doctoral program in counseling or related field, or spe-
cial nondegree students (i.e., professional counselors). This course is designed to give students an introduction to play therapy from a child-centered perspective. Students will develop compet-
encies in child-centered play therapy.

723 LEGAL AND ETHICAL ISSUES IN COUNSELOR EDUCATION 4 credits
Pre-requisites: Admission to the Counselor Education and Supervision Program. Examination of major ethical/legal issues in the field of counseling and manage and family therapy.

725 DOCTORAL PROFESSIONAL SEMINAR IN COUNSELOR EDUCATION 3 credits
Pre-requisite: Admission to the doctoral program in Counselor Education and Supervision. To be taken in the first Fall term of admission. This course is required of all Counselor Education and Supervision doctoral students from both Counseling Education and Marriage and Family Therapy tracks. Professional issues in the counseling field and doctoral identity acculturation and development are covered. (Course offered only once per year)

730 USE OF ASSESSMENT DATA 4 credits
Pre-requisite: doctoral level status. Study of the methods and materials used to assess indi-
dividuals and the effective use of the data obtained leading to professional decisions regarding the diagnosis of individuals present condition, and recommendations for appropriate treat-
ment/intervention.

732 ADDICTION COUNSELING I: THEORY AND ASSESSMENT 3 credits
This course is designed to teach graduate-level students the history, foundations, theoretical models, assessment strategies, and diagnostic procedures associated with addictive disor-
ders.

734 ADDICTION COUNSELING II: TREATMENT PLANNING AND INTERVENTION STRATEGIES 3 credits
This course is designed to teach graduate-level students the process of treatment planning and range of treatment interventions used with addictive disorders.
561 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE II
3 credits
Prerequisite: Successful completion of advanced practicum. Instruction and experience supervising graduate students in counseling.

562 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE II
4 credits
Prerequisite: Successful completion of advanced practicum and Supervision I. Instruction and experience supervising graduate students in counseling.

563 ASSESSMENT IN SPECIAL EDUCATION
3 credits
Prerequisite: Permission of instructor. Seminar on role and function of school psychologist. The course, tailored to meet individual needs of trainees, is a consideration of professional standards of school psychology practice.

564 ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD SPECIAL EDUCATION
3 credits
Prerequisites: 440/540 and 448/548. The assessment of children (three to eight) and their environments (20 field hours).

565 MANAGEMENT STRATEGIES IN SPECIAL EDUCATION
3 credits
Content emphasizing the development of application strategies with a variety of behavior management models for mediation of behaviors with exceptional individuals.

566 ADVANCED BEHAVIOR MANAGEMENT
3 credits
Prerequisite: 567 Advanced techniques for remediating problematic behavior, establishing effective repertoires and evaluation relevant to classroom management will be covered. Behavioral theory will be stressed.

567 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 collaboration with parents and other educational professionals.

568 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION
1-2 credits
May be repeated for a total of four credits. Topics may include (May be repeated for a total of four credits). A comprehensive examination of the educational practices and intervention strategies necessary when providing interventions for individuals demonstrating pervasive development disorders.

569 CHARACTERISTICS AND NEEDS OF INDIVIDUALS DEMONSTRATING PERVERSIVE DEVELOPMENTAL DISORDERS
3 credits
This course will provide a comprehensive overview of the etiology, diagnosis, characteristics, and needs of individuals with pervasive developmental disorders.

570 PROGRAMMING ISSUES FOR INDIVIDUALS WITH PERVERSIVE DEVELOPMENTAL DISORDERS
3 credits
This course provides a survey of the etiology, diagnoses, characteristics, and needs of individuals with pervasive developmental disorders.

571 CHARACTERISTICS AND NEEDS OF INDIVIDUALS WITH BEHAVIORAL AND EMOTIONAL DISORDERS
3 credits
This course will provide a comprehensive examination of the educational practices and intervention strategies necessary when providing interventions for individuals demonstrating pervasive development disorders.

572 SPECIAL TOPICS IN SPECIAL EDUCATION
1-4 credits
Prerequisite: Permission of instructor. Seminar on role and function of school psychologist. The course, tailored to meet individual needs of trainees, is a consideration of professional standards of school psychology practice.
601 COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE EDUCATIONAL PLANNING 3 credits
Prerequisite: permission of instructor. Consideration of cognitive development theories and their application for educational programming.

602 BEHAVIORAL ASSESSMENT 3 credits
Prerequisite: permission of instructor. Overview of behavioral theory and its application focusing on the role of the school psychologist as an agent of behavior change.

603 CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY 3 credits
Prerequisite: permission of instructor. A consideration of consultant roles in the practice of school psychology as related to consultant process and with school and agency personnel, parents and children.

610 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS 4 credits
Prerequisites: permission of instructor. Clinical study and application of current assessment approaches applicable in assessment of children’s learning problems.

611 PRACTICUM IN SCHOOL PSYCHOLOGY 4 credits
Prerequisite: permission of instructor. Laboratory experience in psycho-educational study of individual children who have learning problems in school. (Repeat requirement).

630,1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/Spring 3 credits each
Prerequisite: permission of instructor. Full-time paid work assignment under supervision of a qualified school psychologist for an academic year structured according to provisions of State Department of Education. Additional readings required.

640 FIELD SEMINAR I: CURRENT PROFESSIONAL TOPICS/ISSUES IN SCHOOL PSYCHOLOGY 3 credits
Prerequisite: permission of instructor. Consideration of pertinent topics/issues in practice of school psychology with emphasis upon field-based concerns of a practicing school psychologist.

641 FIELD SEMINAR II: LOW INCIDENCE/RELATED INQUIRIES 3 credits
Prerequisite: permission of instructor. Consideration of pertinent topics/issues in practice of school psychology with emphasis on field-based concerns of a practicing school psychologist.

649 RESEARCH PROJECT IN SPECIAL AREAS 1-3 credits
Prerequisite: permission of advisor. In-depth study of a research area in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in school psychology.

695 FIELD EXPERIENCE: MASTER’S 1-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in school setting.

697 INDEPENDENT STUDY 1-4 credits
Prerequisites: permission of advisor and supervisor of the independent study. Documentation of specific area of investigation. Nature of the inquiry to be determined by student-supervisor agreement.

698 MASTER’S THESIS 4-6 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Not open to students who have taken Intermediate Accounting II.

699 MASTER’S THESIS 4-6 credits
Prerequisite: permission of advisor. Thorough study, analysis and reporting in depth of an educational problem; field projects in special areas; synthesis of existing knowledge in relation to specific topic.

SPECIAL EDUCATIONAL PROGRAMS 5800:

590 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

Business Administration

ACCOUNTANCY 6200:

520 ADVANCED ACCOUNTING 3 credits
Prerequisites: 602 or equivalent. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, nonprofit entities and consolidated statements.

530 CORPORATION TAX RETURNS I 3 credits
Prerequisite: 621 or equivalent. Federal tax law related to individuals. Master of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.

531 TAXATION I 3 credits
Prerequisite: 630 or permission. Federal income tax law related to partnerships, corporations, trusts and estates; also includes an overview of federal estate and gift tax law.

540 AUDITING 3 credits
Prerequisites: 621 or equivalent. Examines auditing standards and procedures used by independent auditors in determining whether a firm has fairly presented its financial position.

554 INFORMATION SYSTEMS SECURITY 3 credits
Prerequisites: 603 or equivalent. Focus on information systems risk and security in distributed business environments; develop policies, practices, and systems for security of computers and data in business.

570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING 3 credits
Prerequisite: 621 or equivalent. Theory and procedures involved in application of fund accounting, budgetary control, appropriations and various accounting systems to governmental units, educational, medical and other nonprofit institutions.

590 SPECIAL TOPICS IN ACCOUNTING 1-3 credits
Prerequisite: permission of instructor. Opportunity to study special topics and current issues in accounting. May be repeated with a change of subject but not to exceed 6 credits.

601 FINANCIAL ACCOUNTING 3 credits
Introductory course for student with no accounting background. Examines accounting principles as applied to financial statements of various types of business organizations.

603 ACCOUNTING DECISION SUPPORT SYSTEMS 3 credits
Introduction to basic financial statement information; coverage of databases, electronic spreadsheets, and other information technology tools that support accounting and assurance services.

606 APPLICATIONS DEVELOPMENT FOR FINANCIAL SYSTEMS 3 credits
Prerequisites: 601 and 6500:605. Analysis, design and development of financial and control applications, using object-oriented languages, integrated development environments (IDE), and object analysis and design methodology.

607 FINANCIAL DATA COMMUNICATIONS AND ENTERPRISE INTEGRATION 3 credits
Prerequisites: 6200:601 and 6500:601. In-depth study of contemporary methodologies, technologies, and standards used to integrate business processes and systems, including XML and XML-RPC into financial applications.

621 CORPORATE ACCOUNTING AND FINANCIAL REPORTING I 3 credits
Prerequisite: 631 or graduate accounting status. An examination of generally accepted accounting principles in theory and application, as well as financial statement preparation. Not open to students who have taken Intermediate Accounting II.

622 CORPORATE ACCOUNTING AND FINANCIAL REPORTING II 3 credits
Prerequisite: Permission of instructor. A continuation of 6200:621 which examines generally accepted accounting principles in theory and practice, as well as financial statement preparation. Not open to students who have taken Intermediate Accounting II.

627 SURVEY OF FEDERAL TAXATION 3 credits
Survey of federal taxation of entities, tax research, and individual taxation. Tax cases, projects, and problems will be assigned.

640 ADVANCED AUDITING 3 credits
Prerequisites: Admission to Master of Tax program or special admission. Designed to develop basic research competence involving federal income, estate, and gift tax laws.

641 CORPORATE TAXATION I 3 credits
Prerequisite: Admission to Master of Tax program or special permission. Detailed examination of tax problems of corporations and their shareholders. Formation, distribution, redemption, and liquidation.

642 TAXATION OF TRANSACTIONS IN PROPERTY 3 credits
Prerequisite: Admission to Master of Tax program or special permission. Examines federal estate and gift tax laws and tax consequences of testamentary and lifetime transfers.

643 ESTATE AND GIFT TAXATION 3 credits
Prerequisite: Admission to Master of Tax program or special permission. Analyzes provisions of federal estate and gift tax laws and tax consequences of testamentary and lifetime transfers.

644 CONTEMPORARY ACCOUNTING ISSUES 3 credits
Prerequisite: Permission of instructor. Critical examination of contemporary issues and trends in accounting, including professional ethics and corporate social responsibility, standard setting process, regulatory compliance, and international issues.

645 ADVANCED AUDITING 3 credits
Prerequisite: 540 or equivalent or permission. Conceptual foundations and current research on professional and internal auditing. Includes government, government and private sector audits.

646 ADVANCED ACCOUNTING 3 credits
Prerequisite: 640 or equivalent or permission. Foundation and current research on professional accounting standards in financial statement presentation, analysis and interpretation.

650 STATE AND LOCAL TAXATION 3 credits
Prerequisite: 650. Consideration of state and local revenue sources and taxing jurisdictions. Consideration of state and local tax systems and objects analysis and design methodology.

651 INTERNATIONAL TAXATION 3 credits
Prerequisite: 650. Examines United States taxation of foreign income of domestic corporations, citizens and residents, as well as United States income of nonresident aliens and foreign corporations.

652 TAX-EXEMPT ORGANIZATIONS 3 credits
Prerequisite: Admission to Master of Tax program or special permission. Analysis of tax aspect of tax-exempt organizations, including nature of and limitations of their exemptions.
654 INDEPENDENT STUDY IN TAXATION 3 credits
Prerequisite: permission of instructor. Intensive study of particular topic or limited number of topics not usually offered in current curriculum. (May be repeated for a total of six credits.)

665 ADVANCED INFORMATION SYSTEMS 3 credits
Prerequisites: 603 or equivalent and 610. Advanced study of accounting information system theory, elements, principles, design and implementation. Practical data processing and networking to control flow of information.

666 ENTERPRISE RISK ASSESSMENT AND ASSURANCE 3 credits
Prerequisite: 601 or equivalent and 610 or equivalent. An examination of the risks, controls, and assurance services in contemporary organizations.

669 ASSURANCE SERVICES AND DATA MINING 3 credits
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.

666 ACCOUNTING AND ASSURANCE PROJECT 3 credits
Prerequisites: 640 and 641. Comprehensive accounting and assurance project and a project management module completed in the final semester of the MBA program.

662 S CORP TAXATION 3 credits
Prerequisite: 661. This course involves an in-depth study of Subchapter S of the Internal Revenue Code.

670 CORPORATE PERFORMANCE EVALUATION AND CONTROL SYSTEMS 3 credits
Prerequisite: 610. 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.

680 INTERNATIONAL ACCOUNTING 3 credits
Prerequisite: 630. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting standards.

683 SELECTED TOPICS IN TAXATION 3 credits
Prerequisite: 631. Provides study in contemporary issues in taxation that are not covered in current courses.

685 GRADUATE INTERNSHIP IN ACCOUNTING 3 credits
Prerequisites: 610, and 621. This course provides an opportunity for graduate accounting students to apply classroom instruction to practice problems in a professional working environment.

687 INDEPENDENT STUDY IN ACCOUNTING 3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in accounting on an independent basis.

ENTREPRENEURSHIP 6300:

640 FINANCING THE ENTREPRENEURIAL VENTURE 3 credits
Prerequisite: 6500:508. Exploration of financing, legal, taxation, and insurance issues involved with entrepreneurial ventures.

670 MANAGING ENTREPRENEURIAL GROWTH 3 credits
Prerequisites: 6500:508 and 6800:640. Interdisciplinary capstone course focusing on problems and opportunities associated with the management of entrepreneurial growth in existing entrepreneurial ventures. Includes a field project.

FINANCE 6400:

538 INTERNATIONAL BANKING 3 credits
Prerequisite: 602 or permission. Examination of recent trends in the expansion of international banking activities and associated revenue maximizing strategies.

602 MANAGERIAL FINANCE 3 credits
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.

623 LEGAL ASPECTS OF BUSINESS TRANSACTIONS 3 credits
Prerequisite: 610 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 operating environment.

631 FINANCIAL MARKETS AND INSTITUTIONS 3 credits
Prerequisite: 620 or equivalent. Advanced legal analysis of contracts, UCC, debtorcreditor relationships, business organizations, property, and government regulation.

645 INVESTMENT ANALYSIS 3 credits
Prerequisite: 602 or equivalent. Study of the economic and market forces that influence securities prices. Techniques of analysis used in evaluating limited income and equity securities.

652 TECHNIQUES OF FINANCIAL MODELING 3 credits
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 profitability decisions.

655 GOVERNMENT AND BUSINESS 3 credits
Public policy with regard to business institutions and issues are considered from an economic, legal, ethical, political, and public interest framework.

674 STRATEGIC FINANCIAL DECISION MAKING 3 credits
Prerequisite: 602. Examines the role of financial decision makers as strategic consultants to other business unitfunctions with integrative risk management as a unifying theme.

678 CAPITAL BUDGETING 3 credits
Prerequisite: 602 or equivalent. Attempt to integrate various theories of capital budgeting into comprehensive conceptual scheme. Theoretical concepts and practical applications blended for better understanding of capital problems.

681 MULTINATIONAL CORPORATE FINANCE 3 credits
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational operations. Consideration of working capital and permanent assets, returns on investment and capital budgeting for the global firm.

685 E-BUSINESS: LEGAL ISSUES 3 credits
Study of the application of law to emerging e-commerce form of business with concentration on emerging law and policy.

686 E-BUSINESS: FINANCIAL STRATEGY AND PLANNING 3 credits
Prerequisites: 602 or equivalent. Focuses on the operation of e-commerce and e-business foundation courses. Study of those issues relating to analysis, evaluation, planning, long and short term financing, and management of e-Business projects.

690 SELECTED TOPICS IN FINANCE 3 credits
(May be repeated for a total of six credits) Prerequisite: 602 or equivalent. Provides study of contemporary issues and areas not covered in current finance graduate courses.

691 INTERNATIONAL MARKETS AND INVESTMENTS 3 credits
Prerequisites: 602 or equivalent. A study of international financial markets with an emphasis on topics related to international investment in a rapidly changing global economy.

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.

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.

MANAGEMENT 6500:

520 MANAGEMENT OF DATA NETWORKS 3 credits
Prerequisite: 602. Principles of the design and management of data networks for business communications.

533 SUPPLY CHAIN LOGISTICS PLANNING 3 credits
Prerequisite: 675. Emphasizes the importance of planning in the development of the domestic and international supply chain logistics system that includes transportation, inventory, warehousing, and procurement.

571 MANAGEMENT PROJECT 3 credits
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.

576 SUPPLY CHAIN SOURCING 3 credits
Prerequisites: 675. Introduces the student to fundamental sourcing concepts as well as the scope of responsibility and critical roles of the sourcing function within the principal organization in a supply chain network.

580 INTRODUCTION TO HEALTH-CARE MANAGEMENT 3 credits
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.

582 HEALTH SERVICES OPERATIONS MANAGEMENT 3 credits
Prerequisite: 690 or 680 or equivalent or permission of instructor. Application of operations and systems analysis to health services organizations.

585 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION 1-3 credits
Prerequisite: permission of instructor. Special topics in health services administration (e.g., management) focusing on historical and/or contemporary managerial organizational and policy issues related to healthcare organizations and health-care management. Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required.

600 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR 3 credits
Course examines management principles, concepts, functions, and process as well as the role of human behavior in organizations.

601 QUANTITATIVE DECISION MAKING 3 credits
Prerequisites: 601, 602, and 605 or equivalent. Provides study of decision making processes with focus on the decision making processes within a rapidly changing, but regulated operating environment.

602 COMPUTER TECHNIQUES FOR MANAGEMENT 3 credits
Introduction to the use of integrated spreadsheet software, database management software and the analysis and design of management information systems.

603 BUSINESS APPLICATIONS DEVELOPMENT 3 credits
The analysis and automation of standard business processes with examples from diverse business functions. Students will integrate these applications for business decision making.

604 ENTREPRENEURSHIP 3 credits
Prerequisites: upper-level or graduate standing and 603 or 601 or equivalent. Students develop new products and work with entrepreneurial businesses in the development of business plans that are presented to investors and entrepreneurs in local and international business plan competitions.

620 E-BUSINESS FOUNDATIONS 3 credits
Prerequisites: upper-level or graduate standing. Provides an understanding of the creation, development, design, and implementation of e-business applications.

622 E-BUSINESS TECHNOLOGIES 3 credits
Prerequisites: 602 or 620. This course provides a foundation in Internet related technologies for successfully developing an e-business. Students will be required to design and implement a functional e-business prototype.

623 E-BUSINESS PROJECT 2 credits
A capstone course that integrates the foundation and functional courses. Student teams will apply project management methods as they design and develop an e-business project.

640 INFORMATION SYSTEMS AND IT GOVERNANCE 3 credits
Prerequisite: 602. Covers issues, strategies, tactics for managing organizational use of information technology and systems. Includes strategic alignment, project management, outsourcing, security, application systems, and emerging technologies.

641 BUSINESS DATABASE SYSTEMS 3 credits
Prerequisite: 602. Introduction to issues underlying the analysis, design, implementation, and management of business databases.

642 SYSTEMS SIMULATION 3 credits
Prerequisites: 601, 602. Manufacturing or service sector systems are analyzed and modeled on a computer. Emphasis on problem definition, simulation development and validation of results. Students will be required to develop a simulation model as part of their final project.

643 ANALYSIS AND DESIGN OF BUSINESS SYSTEMS 3 credits
Prerequisites: 602 or 620 or 603. A hands-on treatment of the methods used to develop different types of business information systems.

644 KNOWLEDGE MANAGEMENT AND BUSINESS INTELLIGENCE 3 credits
Prerequisite: 602. Covers issues, strategies, tactics for managing organizational use of information technology and systems. Includes strategic alignment, project management, outsourcing, security, application systems, and emerging technologies.

645 SOFTWARE DEVELOPMENT AND QUALITY ASSURANCE 3 credits
Prerequisites: 602. Introduction to issues underlying the analysis, design, implementation, and management of business databases.

646 ENTERPRISE SYSTEMS IMPLEMENTATION 2 credits
Prerequisite: 602. The configuration and implementation of Enterprise Systems to support the cross functional integration of business processes.

647 MANAGEMENT OF TELECOMMUNICATIONS 2 credits
Prerequisite: 602 or 603 or 600. An introduction to the use and management of telecommunication resources to support the activities of the organization.
650 HUMAN RESOURCE SYSTEMS FOR MANAGERS 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.

651 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.

652 ORGANIZATIONAL BEHAVIOR 3 credits
Prerequisite: 600 or equivalent. Study of factors which influence human behavior in business organizations. Emphasis on theories of individual and group behavior, motivation, leadership and communication in organizations.

653 ORGANIZATIONAL THEORY 3 credits
Prerequisite: 600. Examines the structure, design and overall effectiveness of a business organization from a macro-perspective.

654 MANAGEMENT OF ORGANIZATIONAL CONFLICT 3 credits
Prerequisite: 600 or equivalent. Course emphasizes that the organization benefits from inevitable conflicts that occur and provides skills in diagnosis, negotiation, and building teams and cooperative working relationships in organizations.

655 COMPENSATION AND PERFORMANCE MANAGEMENT 3 credits
Prerequisite: 600 or equivalent. The development and analysis of systems of payments and incentives in business organizations with special attention placed on performance evaluation methods and productivity enhancement.

656 MANAGEMENT OF GLOBAL SUPPLY CHAIN AND OPERATIONS 3 credits
Prerequisite: 600 or equivalent. Focuses on the scheduling of the elements and issues related to the formation of global supply chain, production, and service operations.

657 THE LEADERSHIP ROLE IN ORGANIZATIONS 3 credits
Prerequisite: 600. Analysis and development of leadership theory and thought. Identification of leadership in both formal and informal organizations. Training and development methods are explored.

658 STRATEGIC AND GLOBAL HUMAN RESOURCES MANAGEMENT 3 credits
Prerequisite: 600. The formulation and implementation of human resource practices designed to generate competitive cost advantages for business firms operating in domestic and international markets.

659 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.

660 SERVICE 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.

661 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.

662 DATA ANALYSIS FOR MANAGERS 3 credits
Prerequisite: 601 or equivalent. Design, evaluation and interpretation of research in business and management. Emphasis on the quantitative and behavioral concepts and processes encountered in conducting such research, including ethical issues.

664 APPLIED INDUSTRIAL STATISTICS 3 credits
Prerequisite: 601 or equivalent. Applications of multiple regression including determination of “best” set of independent variables, correlation models, analysis of variance models including multifactor models. Experimental designs including randomized block and Latin square designs.

665 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.

669 POLYMER MANAGEMENT DECISIONS 3 credits
Prerequisite: 600 or equivalent. Major concepts of management, production processes, and uses of polymeric materials in an easy-to-comprehend interdisciplinary instructional way. Industrial cases help integrate enterprise-wide innovation and technology management decisions.

670 MANAGEMENT OF OPERATIONS 3 credits
Prerequisites: 600, 6500:601, or equivalent. An overview of the issues directly related to the management of operations at the strategic, tactical, and operational levels of the organization.

672 QUALITY AND PRODUCTIVITY TECHNIQUES 3 credits
Prerequisite: 600. Introduction to techniques for improving productivity and quality, including statistical process control (SPC), material requirements planning (MRP), just-in-time (JIT) 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.

678 PROJECT MANAGEMENT 3 credits
Prerequisite: 601 or permission of instructor. Provides working knowledge of tools and methods available to project managers including computerized analysis of network models to aid in planning and control functions.

683 HEALTH SERVICES SYSTEMS MANAGEMENT 3 credits
Prerequisite: 600 or 6500:620 or equivalent or permission of instructor. Study of health care systems and organizations, comparative delivery systems, the roles of third-party payers and government. Seminar forums and research paper required.

686 HEALTH SERVICES RESEARCH PROJECT 3 credits
Prerequisite: 630 or permission of instructor. In-depth field study in health services administration with applications of research and analysis skills. Course requires review of literature and original research projects.

688 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION 1-3 credits
May be repeated for a total of six credits. Prerequisite: 652. Selected topics in historical, contemporary and/or operational aspects of health services administration.

695 BUSINESS STRATEGY AND POLICY: DOMESTIC AND INTERNATIONAL 3 credits
Prerequisites: 6500:670, 6400:674, 6500:620, 6900:605 or permission of instructor. A case-oriented course which focuses on integration of theoretical and practical knowledge acquired in core business courses. Students analyze, evaluate, formulate organizational objectives and strategies within domestic and international environmental contexts.

697 INDEPENDENT STUDY IN MANAGEMENT 1-3 credits
May be repeated for a total of six credits. Focus on special topics of study and research in management on an independent basis.

698 INDEPENDENT STUDY IN MARKETING 1-3 credits
May be repeated for a total of six credits. Focus on special topics of study and research in marketing on an independent basis.

720 STRATEGIC MARKETING MANAGEMENT 3 credits
Prerequisite: 600 or equivalent. Managemental assessment of opportunities, threats are explored as are the development and management of appropriate strategic marketing plans and their tactical implementation.

723 CUSTOMER RELATIONSHIP MANAGEMENT 3 credits
Prerequisite: 600 or permission of instructor. Exploration of the marketing concept and practice of making the customer the focus of the firm’s business model. Examining the strategies and tactics for successful acquisition and retention is the focus of the course.

725 E-BUSINESS: ELECTRONIC MARKETING STRATEGIES AND TACTICS 3 credits
Prerequisites: 600 and 6500:620. Covers the impact of electronic technology on marketing strategies and tactics. Investigates e-commerce, vendor/dealer relations, website traffic designs, databases applications, and web appraisal metrics.

730 BUSINESS RESEARCH METHODS 3 credits
Prerequisites: 6500:630 and 662. Covers the scientific methods as well as the gathering and analysis of information to identify opportunities and solve problems within a business organization.

735 INNOVATIVE MARKETING STRATEGIES 3 credits
Prerequisite: 600. A review of contemporary business issues and their impact on innovative marketing practices. Simulations, cases, and field projects support structured class dialogues on emerging strategic business and marketing themes.

745 INTEGRATED MARKETING COMMUNICATIONS 3 credits
Prerequisite: 600. The total range of marketing communication tools are examined individually and in the context of planning, developing, and implementing a systematic and integrated communications program.

747 COMPETITIVE BUSINESS STRATEGY 3 credits
Prerequisite: 600. Investigation of competitive business strategy from an industry perspective. The course presents a framework which can be used to understand and develop competitive strategies.

748 INDEPENDENT STUDY IN MARKETING 1-3 credits
May be repeated for a total of six credits. Focus on special topics of study and research in marketing on an independent basis.

750 PROFESSIONAL RESPONSIBILITY 1 credit
Prerequisite: Nine graduate credits. Seminar on the professional responsibilities of business men and women to make them and the business organization in which they work more responsible decision makers.

752 INTERNATIONAL BUSINESS 3 credits
Prerequisite: Nine graduate credits. Enhances understanding of global business issues, present relevant trends and updates, facilitates cross-cultural interaction, and explores applied theories and research in the practice of international business.

800 MARKETING 3 credits
Prerequisite: 600. Course examines the information-driven process that is managed by database technology in and effort to develop, test, implement, measure, and create customized marketing programs and strategies. Database marketing focuses on better decision making relative to customer selection and customer relationships.

801 SALES MANAGEMENT 3 credits
Prerequisite: 600. Develops analytical and managerial skills through case studies and other learning activities relating to the sales function, selection, training, motivation, and control of domestic or global sales force. (Graduate credit requires additional research papers.)

802 MARKETING CONCEPTS 3 credits
Introductory course examining buyer behavior, environmental influences, target marketing, product development, distribution, promotion, and pricing for business firms and nonprofit organizations within a global context.

803 DATABASE MARKETING 3 credits
Prerequisite: 600. This course examines the information-driven process that is managed by database technology in and effort to develop, test, implement, measure, and create customized marketing programs and strategies. Database marketing focuses on better decision making relative to customer selection and customer relationships.

805 SALES MANAGEMENT 3 credits
Prerequisite: 600. Analytical and managerial skills through case studies and other learning activities relating to the sales function, selection, training, motivation, and control of domestic or global sales force. (Graduate credit requires additional research papers.)

806 MARKETING CONCEPTS 3 credits
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813 MARKETING CONCEPTS 3 credits
Introductory course examining buyer behavior, environmental influences, target marketing, product development, distribution, promotion, and pricing for business firms and nonprofit organizations within a global context.
Fine & Applied Arts

ART 7100:

501 SPECIAL TOPICS IN HISTORY OF ART 1-3 credits
Prerequisite: Permission of instructor. Theory and development of communication and educational problems within a studio-selected area of specialization. Student must present in writing a major paper in support of the course taken. (May be repeated for credit when a different subject or level of investigation is indicated.)

502 MUSEOLOGY 3 credits
The handling, storage and presentation, and exhibition preparation.

503 ART AND CRITICAL THEORY 3 credits
Prerequisite: Permission of instructor. This course, designed for both studio and art history majors, surveys the major theoretical currents in contemporary criticism and art history.

505 HISTORY OF ART SYMPOSIUM 1-3 credits
Prerequisite: Permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem.

506 METHODS OF ART HISTORY 2 credits
Prerequisite: Permission of instructor. This course explores the history of the discipline and the permutations it has undergone since its establishment in the early years of the nineteenth century.

510 METHODS OF TEACHING ELEMENTARY ART 3 credits
Prerequisite: Admission to Teacher Education Program. A lecture course in art education introducing students to his- torical work in color rendering techniques. Emphasis on a variety of rendering mediums.

511 METHODS OF TEACHING SECONDARY ART 3 credits
Prerequisite: Admission to Teacher Education Program. A lecture course introducing students to the knowledge, skills, and experience necessary for the development of curriculum, instruction, and assessment appropriate for application at the high school level. No credit as an elective for art majors.

512 STUDENT TEACHING COLOQUIM 1 credit
Prerequisite: Successful completion of field experience and permission. Corequisite: 5500:694. Lecture course providing the skills and knowledge necessary for art education licensure. Student will gain knowledge in resume building, licensure requirements, and practical pedagogical techniques.

518 ADVANCED PRINTMAKING 3 credits
Prerequisites: Permission. Studio course with emphasis on advanced printmaking techniques and processes.

529 FLAT PATTERN DESIGN 3 credits
Prerequisite: Permission. Studio course with emphasis on advanced flat pattern design techniques and processes.

530 SPECIAL TOPICS IN STUDIO ART 3 credits
Prerequisite: Permission. A studio course focusing on a particular movement, period, artist, or medium. (May be repeated when a different subject or level of investigation is indicated.)

531 WORKSHOP IN ART 1-4 credits
Prerequisite: Permission for one credit when a different subject or level of investigation is indicated. Prerequisite: varies by course. Group investigation of topics not offered elsewhere in the curriculum.

535 ARCHITECTURAL PRESENTATIONS 1-2 credits
Prerequisites: Permission. Studio course in architectural design and presentation methods in residential and commercial interiors.

537 ARCHITECTURAL PRESENTATIONS II 3 credits
Prerequisites: 591. Continuation of concepts covered in Architectural Presentations I with additional emphasis on computer-aided techniques. Emphasis on a variety of rendering mediums.

539 ADVANCED SEMINAR IN ART EDUCATION 3 credits
Prerequisite: Acceptance to the MS program in Secondary Education with Visual Art Licensure. This is a seminar course that introduces students to historical, contemporary, philosophical issues in art education. Contemporary problems, theories and practices in art education also addressed.

540 SPECIAL TOPICS: ART EDUCATION 1-2 credits
Prerequisite: Permission of instructor. Group investigation of topics of interest to the art education student and not covered elsewhere in the curriculum.

549 FLAT PATTERN DESIGN 3 credits
Prerequisite: Permission. A studio course focusing on a particular movement, period, artist, or medium. (May be repeated when a different subject or level of investigation is indicated.)

550 NUTRITION COMMUNICATION AND EDUCATION SKILLS 4 credits
Prerequisite: Permission of instructor. Theory and development of communication and education skills essential to dietetics practice. Interpersonal communication, interviewing, nutrition counseling, education techniques, media, and current technology.

553 ADVANCED FOOD PREPARATION 3 credits
Prerequisite: Permission. Study of advanced techniques of food preparation. Introduction to and interpretation of classic and foreign cuisines. Emphasis on individualized experience, skill development and evaluation of procedures and results.

554 MIDDLE CHILDHOOD AND ADOLESCENCE 3 credits
Prerequisites: Permission of instructor. The influences of middle childhood and adolescent behavior on the family and the influences of the family environment on middle childhood and adolescent development.

555 FAMILY FINANCIAL MANAGEMENT 3 credits
Prerequisite: Permission of instructor.Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.

556 FAMILY FINANCIAL MANAGEMENT II CLINICAL 3 credits
Prerequisite: Permission of instructor. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.

557 OCCUPATIONAL EMPLOYMENT EXPERIENCE 4 credits
Provides student with knowledge of current business and industrial practices at level minimally commensurate with employment expectations of graduates of vocational job training programs in Family and Consumer Sciences.

558 FOOD SYSTEMS MANAGEMENT II 3 credits
Prerequisite: Acceptance into the graduate program or permission of instructor. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.

560 EXPERIMENTAL FOODS 3 credits
Prerequisites: Permission. Theory and methods used in the experimental study of foods. Analytical procedures in sensory and instrumental evaluation of food quality. Individual research emphasized. Lecture/Laboratory.

563 PROFESSIONAL IMAGE ANALYSIS 3 credits
Prerequisites: Permission. The influences of middle childhood and adolescent behavior on the family and the influences of the family environment on middle childhood and adolescent development.

568 HISTORY OF INTERIOR DESIGN I 4 credits
The study of furnishings, interiors, and architecture from antiquity through the eighteenth century, with emphasis on the socio-cultural influences shaping their development.

569 HISTORY OF INTERIOR DESIGN II 4 credits
The study of nineteenth and twentieth-century furnishings and interiors, with emphasis on the socio-cultural influences shaping their development.

570 NUTRITION IN THE LIFE CYCLE 3 credits
Prerequisite: Permission of instructor. Study of the physiological basis for nutritional require- ments, interrelating factors which affect growth, development, maturation and nutritional sta- tus from conception through the elderly years.

572 NUTRITION IN MEDICAL SCIENCE II CLINICAL 3 credits
Prerequisite: Permission of instructor. Examination of the global structure and scope of the textile and apparel industries emphasizing an economic perspective.

578 NUTRITION IN MEDICAL SCIENCE II 3 credits
Prerequisite: Acceptance into the graduate program or permission of instructor. Emphasizing nutritional implications of more complex metabolic and pathological conditions as well as nutrition support strategies.

584 NUTRITION IN MEDICAL SCIENCE II CLINICAL 3 credits
Prerequisite: Admission to CP program. Corequisite: 528. Clinical experience in hospitals; application of principles of nutritional care.

585 PROFESSIONAL PRESENTATION SKILLS IN FAMILY & CONSUMER SCIENCES 3 credits
Prerequisite: Permission of instructor. Emphasis on development of abilities and strengths in coordination of equipment, materials, motion, speech, and presentation delivery relating to education and industry in Family and Consumer Sciences.

596 CULTURE, ETHNICITY AND THE FAMILY 3 credits
Study of the role of culture and ethnicity in adaptation of the family system to environment. Program applications considered.

597 NUTRITION ASSESSMENT 3 credits
Prerequisite: Permission. Application of principles of nutrition and assessment. Analysis and interpretation of current literature. Open to dietetics majors only.

598 NUTRITION IN MEDICAL SCIENCE II 3 credits
Prerequisite: Permission of instructor. Emphasizing nutritional implications of more complex metabolic and pathological conditions as well as nutrition support strategies.

600 AMERICAN FAMILIES IN POVERTY 3 credits
Overview of the issues, trends, and social policies affecting American families living in pover- ty.
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<td>637 HOSPITAL SETTINGS, CHILDREN, AND FAMILIES</td>
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<td>643 NUTRITION FOR ATHLETES</td>
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526 MUSIC TEACHING METHODOLOGIES FOR GRADUATE STUDENTS 2 credits
Basic pedagogic techniques related to the teaching of undergraduate music courses, including preparation of syllabi, methods of evaluation, and instruction on class preparation and presentation.

527 GRADUATE MUSIC THEORY REVIEW 2 credits
Prerequisite: Undergraduate music theory equivalent to four semesters. Review of basic music theory concepts. Coverage includes the chromatic harmony vocabulary of the 18th, 19th, and 20th centuries.

528 GRADUATE MUSIC HISTORY REVIEW 2 credits
Prerequisite: Undergraduate music history equivalent to four semesters of music history. Review of basic music history for graduate students. Coverage extends from antiquity to the present. Both reading and listening assignments will be required.

529 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS 2 credits
To train graduate and undergraduate students in techniques of percussion education. Emphasis on research, literature, performance, and techniques from elementary through secondary levels.

531 INTRODUCTION TO MUSICOLOGY 2 credits
Prerequisite: 525. Comparative musicology; acoustics; psychology and physiology of music; aesthetics; theory of music therapy; historical musicology.

531 MUSIC SOFTWARE SURVEY AND USE 2 credits
Prerequisite: 122 or permission of instructor. A survey and evaluation of software available in the various forms of musical instruction. Students will design a course suitable for submission to a programmer.

555 ADVANCED CONDUCTING: INSTRUMENTAL 2 credits (DD clinical hour)
Prerequisites: 361 and 442 or permission. Baton techniques and problems related to practice, reading and preparation of scores; organization of ensembles; conducting large instrumental ensembles. One hour lab required.

556 ADVANCED CONDUCTING: CHORAL 2 credits
Prerequisite: 365 or equivalent. Conducting techniques to the choral ensemble, including selection, choral sound, error detection, tonal development, stylistic and analysis. One hour lab required.

562 REPERTOIRE AND PEDAGOGY: ORGAN 2 credits
Prerequisite: permission of instructor. Survey of organ literature of all eras and styles, and of methods of teaching organ, applying principles to literature.

563 REPERTOIRE AND PEDAGOGY: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Study in depth of the four bowed string instruments teaching and close relationship. Despite obvious difference in physical application of cello and bass from violin and viola, bowing, sound production and coloring are closely related. Application of the instruments to solo, chamber and orchestral playing.

565 GUITAR PEDAGOGY 2 credits
Prerequisite: permission of instructor. Systematic analysis of prevailing schools of guitar pedagogy, sound production psychology, method books and special problems in teaching guitar.

566 GUITAR ARRANGING 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.

567 HISTORY AND LITERATURE OF THE GUITAR AND LUTE 2 credits
Prerequisite: permission of instructor. Study of plucked, fretted, string instruments from the 15th Century to the present; construction, notation, literature and performance practices. Modern editions and recordings evaluated.

570 STUDIES IN CHORAL LITERATURE I: MEDIEVAL/RENAISSANCE 2 credits
A survey of choral repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

571 STUDIES IN CHORAL LITERATURE II: BAROQUE 2 credits
A study of the repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

572 STUDIES IN CHORAL LITERATURE III: CLASSIC-ROMANTIC 2 credits
A study of the repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

573 STUDIES IN CHORAL LITERATURE IV: THE 20TH CENTURY 2 credits
A study of the repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

574 INTEGRATIVE CONDUCTING WORKSHOP 2 credits
A study of how to prepare and execute effective rehearsal which respond to the needs of the singer to maintain stylistic integrity in executing the music.

590 WORKSHOP IN MUSIC 3 credits
Prerequisite: permission of instructor. Investigation of topics not offered in regular curriculum. Graduate student must fulfill additional requirements.

601 CHORAL LITERATURE 2 credits
Prerequisite: permission of instructor. Study in depth of style, structure, technical demands, manner of setting text, and special performance problems found in masterworks by great choral composers of the 20th century.

604 DEVELOPMENT OF OPERA 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.

605 BEGINNING ITALIAN I FOR SINGERS 2 credits
Introduction is given in grammar, pronunciation, and syntax in the Italian language. Classroom drills will involve reading in Italian with special attention to pronunciation for singing.

606 BEGINNING ITALIAN II FOR SINGERS 2 credits
Prerequisite: 605 or equivalent. Further study is given in grammar, pronunciation, and syntax in the Italian language. Classroom drills will involve reading in Italian with special attention to pronunciation for singing.

609 PEDAGOGY OF JAZZ IMPROVISATION 3 credits
A detailed study of the materials and materials as they relate to the teaching of jazz improvisation. Required.

611 FOUNDRATIONS AND PRINCIPLES OF MUSIC EDUCATION 2 credits
A study of basic historical, philosophical, sociological, and psychological concepts in the content of music education.

612 PRACTICES AND TRENDS IN MUSIC EDUCATION 2 credits
A study of the history of practices and trends in American music education.

613 INSTRUCTIONAL PROGRAMMING IN MUSIC FOR THE MICROCOMPUTER 3 credits
Prerequisite: 603. Introduction to programming languages for the microcomputer including BASIC, Pascal and Assembler. Programming will be directed towards music educational concepts.

614 MEASUREMENT AND EVALUATION IN MUSIC 3 credits
A study of measurement and evaluation techniques and their application in music education.

615 MUSICAL STYLES AND ANALYSIS I 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music from Middle Ages and Renaissance through Baroque, with a focus on writing in areas of special interest.

617 MUSICAL STYLES AND ANALYSIS II 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music from Baroque through late Romantic, with a focus on writing in areas of special interest.

618 MUSICAL STYLES AND ANALYSIS III 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music from late Romantic through early 20th Century, with a focus on writing in areas of special interest.

619 THEORY AND PEDAGOGY 2 credits
Prerequisite: permission of instructor. Methodology of 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.

620 COMPUTER ANALYSIS IN MUSIC 2 credits
Prerequisite: a minimum of one course in the 615–618 series. A systematic study of analytical techniques in music which make use of the computer. Hands-on experience with music encoding, card manipulation, interactive, systems and program writing as related to music analysis.

621 MUSIC HISTORY SURVEY: MIDDLE AGES AND RENAISSANCE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music from Middle Ages and Renaissance through Baroque, with a focus on writing in areas of special interest.

622 MUSIC HISTORY SURVEY: BAROQUE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Baroque music; study in depth of specific examples, from recordings, scores and live performances; continuation and synthesis of approaches normal to study of music history; selected readings related to each student’s particular fields of interest; project papers.

623 MUSIC HISTORY SURVEY: CLASSIC AND ROMANTIC 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of classic and romantic music; study 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 each student’s particular fields of interest; project papers.

624 MUSIC HISTORY SURVEY: MUSIC SINCE 1900 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of music since 1900; study in depth of specific examples through recordings and live performances, continuation and synthesis of approaches normal to study of music history; selected readings and project papers.

625 GRADUATE BIBLIOGRAPHY AND RESEARCH IN MUSIC 3 credits
Prerequisite: 623. Undergraduate music degree equivalent; Examination of all types of published musicological materials; research methods for thesis preparation and professional publishing; field trips to music libraries, computerized music research.

626 COMPUTER STUDIO DESIGN 2 credits
Prerequisites: 623. The design and maintenance of a computer lab. Emphasis on hardware and software setup to maximize function and minimize maintenance.

630 TEACHING AND LITERATURE: BRASS INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in brass teaching techniques and appropriate literature.

631 TEACHING AND LITERATURE: WOODWIND INSTRUMENTS 2 credits
Prerequisite: 623. Undergraduate music degree equivalent; Examination of all types of published musicological materials; research methods for thesis preparation and professional publishing; field trips to music libraries, computerized music research.

632 TEACHING AND LITERATURE: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in string teaching techniques and appropriate literature.

640, 642, 643 ADVANCED ACCOMPANYING I, II, III, IV 1 credit each
Prerequisites: Graduate standing, keyboard performance and/or accompanying, and permission of the instructor. An indepth study of principles of accompanying, sight reading, standard repertoire, and transcription.

653 ELECTRONIC MUSIC 3 credits
Prerequisites: Undergraduate music degree equivalent; Examination of all types of published musicological materials; research methods for thesis preparation and professional publishing; field trips to music libraries, computerized music research.

671 STUDENT RECITAL 0 credits
Required of all music majors. Forum for student and faculty providing lectures, recitals, and opportunities to practice skills for successful music performance.

675 VOLTAGE PEDAGOGY 3 credits
Prerequisite: permission of instructor. Systematic study of song writing processes and their chronologically according to national schools of composition. Stylistic compositional characteristics of all representative works of solo composers of solo song literature.

675 SEMINAR IN MUSIC EDUCATION 1-3 credits
May be repeated for a total of 6 credits. Intensive examination of special topics in the field of music education.

676 WORKSHOP IN CHORAL MUSIC EDUCATION 2 credits
A seminar dealing with the selection of choral repertoire for multiple choir programs at all levels. Approaches to score preparation, programming, rehearsal, and vocal techniques will be studied.

687 ADVANCED PROBLEMS IN MUSIC 1-3 credits
May be repeated for a total of 8 credits. In-depth study of significant work in the field of music education.

688 GRADUATE RECITAL 2 credits
Prerequisite: permission of graduate advisor. Recital prepared and presented as a requirement for any appropriate degree option. May be repeated for credit with the recital, add 699 for the additional credit. Once passed, may not be repeated for credit.

699 MASTER’S THESIS/PROJECT 4-6 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.
### MUSICAL ORGANIZATIONS 7510:

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<td>AKRON SYMPHONY CHORUS</td>
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<td>603</td>
<td>UNIVERSITY SYMPHONY ORCHESTRA</td>
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<td>SYMPHONIC BAND</td>
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<td>605</td>
<td>VOCAL CHAMBER ENSEMBLE</td>
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<td>BRASS ENSEMBLE</td>
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<td>607</td>
<td>STRING ENSEMBLE</td>
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<td>OPERA WORKSHOP</td>
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<td>609</td>
<td>PERCUSSION ENSEMBLE</td>
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<td>610</td>
<td>WOODWIND ENSEMBLE</td>
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<td>UNIVERSITY SINGERS</td>
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<td>MARCHING BAND</td>
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<td>TRUMPET OR CORNET</td>
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### COMMUNICATION 7600:

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<td>WOMEN, MINORITIES AND NEWS</td>
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<td>516</td>
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<td>NEW MEDIA PRODUCTION</td>
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<td>520</td>
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<td>COMMERCIAL ELECTRONIC PUBLISHING</td>
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<td>ANALYZING ORGANIZATIONAL COMMUNICATION</td>
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<td>TRAINING METHODS IN COMMUNICATION</td>
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<td>HEALTH COMMUNICATION</td>
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SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

546 WOMEN, MINORITIES, AND MEDIA 3 credits
Examination of the media's portrayal of white women and people of color and the roles of media-makers in creating powerful counterparts to these images.

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
Study 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, interpersonal, and cross-cultural contexts. Assessment tools provided. Guest speakers.

562 ADVANCED MEDIA WRITING 3 credits
Practical applications of script writing principles and techniques, focusing on the skills and discipline required to finish an entire script.

568 ADVANCED AUDIO/VIDEO EDITING 2 credits
Prerequisite: Permission of instructor. Advanced computerized multi-track audio and video editing. Theory and practice of multi-track sound mix for video productions.

571 THEORIES OF RHETORIC 3 credits
Study of key figures in history of rhetorical theory, stressing interrelationships among theories of rhetoric, intellectual climates and social climates.

575 POLITICAL COMMUNICATION 2 credits
Students explore the relationship between politicians, citizens, and media. Topics include media coverage, campaign technologies, advertising, debates, engagement, rhetoric, and attitudes toward political leaders. Assessment tools provided.

581 FILM AS ART: AN INTRODUCTION TO THE FILM FORUM 3 credits
Explores the formal laws that govern a film; acquainting the students withroy film narrative elements.

590 COMMUNICATION WORKSHOP 3 credits
(May be repeated for a total of six credits) Group study or group projects investigating a specific topic of interest to the students. Course may be repeated for a total of six credits. Prerequisites: 7800:600 and approval of project advisor.

593 PRODUCTION PRACTICUM 3 credits
Prerequisite: permission. Practical application of writing, directing, management, recording, and editing skills in problems in electronic media production.

600 INTRODUCTION TO GRADUATE STUDY IN COMMUNICATION 3 credits
Introduction to the ideas and scholarship that constitute the various research interests in the department.

602 QUALITATIVE METHODS IN COMMUNICATION 3 credits
Prerequisite: 7800:600. The course covers paradigms underlying qualitative inquiry, major methods of inquiry, and techniques utilized in the communication discipline. The course fosters student-generated research through gathering and analyzing data.

603 QUANTITATIVE METHODS IN COMMUNICATION 3 credits
An introduction to elementary concepts of empirical and quantitative research and their application in studies of mass media research topics.

606 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.

608 COMMUNICATION PEDAGOGY 3 credits
Familiarizes students with aspects of teaching communication and media courses at the college level.

624 SURVEY OF COMMUNICATION THEORY 3 credits
Study of theories of communication and communication studies exploring the effect of media.

625 THEORIES OF MASS COMMUNICATION 3 credits
A review of the theories of mass communication and studies exploring the effect of media.

645 INTERCULTURAL COMMUNICATION THEORY 3 credits
Analysis of the impact on the communication process of cultural difference between communication partners, examining existing literature in intercultural communication.

650 COMMUNICATION CRITICISM 3 credits
Introduces the basic elements, approaches and criteria that constitute a reasoned position in the major theories of criticism.

680 GRADUATE RESEARCH IN COMMUNICATION 16 credits
(May be repeated for a total of six credits.) Prerequisites: must have attained the degree of graduate standing in the School’s graduate program; must receive permission and approval of internship placement and research proposal. Provides communication graduate students with opportunity to obtain experience and to apply knowledge of academically-oriented research in the communication field.

691 ADVANCED COMMUNICATION STUDIES 3 credits
(May be repeated for a total of six credits.) Special topics in communication in areas of particular faculty expertise. Consult department for particular topic each semester.

697 GRADUATE RESEARCH IN COMMUNICATION 1-6 credits
(May be repeated for total of six credits.) Prerequisite: 7800:600 and approval of project advisor. Focus on research problems in mass media communication.

698 MASTER’S PROJECT/PRODUCTION 16 credits
(May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

699 MASTER’S THESIS 16 credits
(May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

545 MULTICULTURAL CONSIDERATIONS FOR AUDILOGISTS AND SPEECH-LANGUAGE PATHOLOGISTS 2 credits
Prerequisite: 7800:7100 or graduate standing. This course introduces the multicultural considerations faced by audiologists and speech-language pathologists providing services to families and individuals with communication disorders.

560 SPEECH-LANGUAGE AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits
Prerequisite: Open to communicative disorders majors. Nature, causes and treatment of speech, hearing, and language disorders in public schools. Special reference to role of classroom teacher in screening and referring students with suspected problems and in working with school clinician.

561 ORGANIZATION AND ADMINISTRATION: PUBLIC SPEECH-LANGUAGE AND HEARING PROGRAMS 2 credits
Prerequisite: Senior or graduate standing or permission. For clinicians who plan to work in public school systems. Covers program requirements and professional/ethical issues imposed by the state.

580 EARLY INTERVENTION FOR PRESCHOOLERS 2 credits
Prerequisite: graduate status. This course explores model programs currently being offered to the three to five year old population, with and without disabilities at two different levels.

585 DEVELOPMENTAL DISABILITIES 2 credits
Prerequisite: graduate status. Current practice related to clinical intervention designs for individuals with developmental disabilities. Explores the use of the natural environment and the curriculum as intervention tools.

590 WORKSHOP: SPEECH-LANGUAGE PATHOLOGY AND/OR AUDIOLOGY 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Group investigation of and research on special phase of speech pathology and/or audiology.

610 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Principles and use of clinical and research instrumentation in speech and hearing.

611 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I 3 credits
Introduction to experimental design in field of communicative disorders.

612 RESEARCH METHODS IN COMMUNICATIVE DISORDERS II 2 credits
Prerequisite: 611. Advanced experimental methods; development of a research study.

620 ARTICULATION 2 credits
Historical background, current theories and research related to articulation, evaluation and treatment of articulation and phonology disorders.

623 SUPPORT SYSTEMS FOR INDIVIDUALS AND FAMILIES WITH COMMUNICATION DISORDERS 2 credits
Enhances students' abilities to evaluate, provide educational information, and create support systems for persons with communicative handicaps and their families.

624 NEUROGENIC SPEECH AND LANGUAGE DISORDERS 3 credits
Prerequisite: graduate status. Course presents current theories and research related to neuroanatomical, etiology, diagnosis, classification and treatment of adults with neurologically based communication disorders.

626 VOICE AND CLEFT PALATE 3 credits
Prerequisite: graduate status. Background and current research related to normal vocal and velopharyngeal function as well as the etiology, diagnosis, and treatment of voice and cleft palate.

627 STUTTERING: THEORIES AND THERAPIES 2 credits
Prerequisite: graduate status. This course provides information and discussion on theories, classification, diagnosis, and treatment of fluency disorders.

628 TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS 2 credits
(May be repeated for a total of four credits) Prerequisite: permission of director of Speech and Hearing Center.

629 TOPICS: SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Prerequisite: permission of instructor. Current topics in clinical and/or experimental areas of speech pathology, audiology, or language. Emphasis on review of current and historical literature.

630 CLINICAL ISSUES IN CHILD LANGUAGE 4 credits
Prerequisite: graduate status. Presents current research perspectives on child language disorders and clinical methodologies in language assessment and intervention.

631 ACQUIRED BRAIN INJURY 3 credits
Prerequisite: permission of instructor. A study of behavioral deficits, stages of recovery, assessment techniques, and principles of cognitive rehabilitation related to closed head injury.

632 DYSPHAGIA 3 credits
Dysphagia, etiology, assessment, and treatment for infants, children, and adults with feeding and swallowing disorders (dysphagia). It provides actual experiences in diagnosis and feeding techniques.

633 PROFESSIONAL ISSUES 2 credits
Prerequisite: graduate status. Ethical, moral, and legal processes within current SLP professional issues are discussed. Students are encouraged to develop personal professional viewpoints and identity.

638 SEMINAR IN LANGUAGE AND SPEECH OF THE HEARING IMPAIRED 2 credits
Study of development of language and speech in hearing-impaired children, emphasizing psycholinguistic approach, and means of intervention. Communicative processes of hearing-impaired adults. Effect of conditions of minimum auditory stimulation and acoustic feedback on expressive and receptive speech.

639 AUDIOLGY FOR THE SPEECH-LANGUAGE PATHOLOGIST 3 credits
Prerequisite: Graduate standing in Speech-Language Pathology or permission. Advanced information on hearing loss and concomitant communication problems with special orientation toward the speech-language pathologist.

650 ADVANCED CLINICAL PRACTICUM: SPEECH-LANGUAGE PATHOLOGY 1-6 credits
Prerequisite: Permission (may be repeated). Supervised clinical practicum in evaluation and treatment of speech and language disorders; includes preparation of written reports and seminar reports.

651 SPEECH-LANGUAGE AND HEARING PROGRAMS 2 credits
Prerequisite: Permission of School Director. Internship experience in a speech-language pathologist's office.

701 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 audiologic equipment (included 1 credit hour lab).

550 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
Not open to communicative disorders majors. Introduction to acquisition and development of comprehension and production of language – phonologically, semantically and syntactically. Related language acquisition to perceptual development of childhood and looks at function of language in individual, family and school.

540 AUGMENTATIVE COMMUNICATION 3 credits
Prerequisite: 430 or 4300 or permission of instructor. Overview of augmentative communication systems; candidates, symbol systems, devices, vocabulary, funding. Considers inter-disciplinary issues in assessment/intervention.
729 RESEARCH PROJECT IN AUDIOLOGY 3 credits
Prerequisite: admission to the Au.D. program or permission. Completion of a Doctoral research Project including planning, research design, analysis, write-up, and oral presentation.

730 PRACTICE MANAGEMENT IN AUDIOLOGY 4 credits
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.

731 SEMINAR: SUPERVISED PROFESSIONAL EXPERIENCE 2-6 credits
Corequisite: 750 or 761 or permission of instructor. In depth consideration of topics/issues in the practice of audiology with emphasis upon issues related to clinical rotation issues. Repeatable up to six credits.

732 DIRECTED OBSERVATION IN AUDIOLOGY 1 credit
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.

734 CLERKSHIP I 1 credit
Corequisite: 709. Clinical practicum in audiology during which students perform discrete tasks under supervision. Repeatable for up to 6 credits.

744 CLERKSHIP II 1 credit
Prerequisite: 743. Supervised clinical practicum in audiology during which students will perform clinical tasks while under supervision. Repeatable for up to 6 credits.

745 INTERNSHIP IN AUDIOLOGY I 2 credits
Prerequisite: 744 and permission. Supervised practicum in audiology requiring the independent completion of basic audiological procedures, including hearing aid management. Repeatable up to eight credits.

746 INTERNSHIP IN AUDIOLOGY II 2 credits
Prerequisites: 746 and permission. Supervised clinical practicum in audiology requiring the independent completion of audiological procedures, hearing aid management, and audiological rehabilitation procedures. Repeatable up to eight credits.

747 GRADUATE AUDIOLOGIST I 3 credits
Prerequisite: 717. Supervised clinical practicum in audiology which encompasses audiological assessments and audiological rehabilitation. Repeatable for up to 9 credits.

748 GRADUATE AUDIOLOGIST II 3 credits
Prerequisite: 741 and permission. Supervised clinical practicum in audiology requiring the independent performance of audiological procedures, audiological rehabilitation, and vestibular assessment and rehabilitation. Repeatable for up to 9 credits.

749 GRADUATE AUDIOLOGIST III 8 credits
Prerequisite: 748 and permission. Supervised clinical practicum in audiology requiring the independent performance of audiological assessment procedures, audiologist rehabilitation, and vestibular assessment and rehabilitation.

750 GRADUATE AUDIOLOGIST IV 8 credits
Prerequisites: 749 and successful completion of the PRAXIS Examination. Full-time external audiological clinical placement with a licensed and appropriately credentialed preceptor who provides clinical teaching. This experience provides a capstone learning experience in the full scope of practice in the profession of audiology.

751 GRADUATE AUDIOLOGIST V 3 credits
Prerequisites: 750 and permission. Corequisite: 731. Full-time external audiological clinical placement with a licensed and appropriately credentialed preceptor who provides clinical teaching. This experience provides a capstone learning experience in the full scope of practice in the profession.

899 DOCTORAL ENROLLMENT/RESIDENCY 1-8 credits
May be repeated up to 8 credits. Prerequisite: Graduating student in the Doctor of Audiology program and permission of instructor. Continuous enrollment course to maintain status in Au.D. program.

SOCIAL WORK 7750:

501 SOCIAL WORK PRACTICE I 3 credits
Prerequisite: 276 or permission of instructor. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families.

502 SOCIAL WORK PRACTICE II 3 credits
Prerequisite: 402 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.

503 SOCIAL WORK PRACTICE III 3 credits
Prerequisite: 403 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.

504 SOCIAL WORK PRACTICE IV 3 credits
Prerequisite: 404 or permission of instructor. Professional social work practice with families in social settings; the dynamics of family systems, assessment of family function and dysfunction, professional helping processes.

510 SOCIAL ISSUES IN SOCIAL WORK PRACTICE 3 credits
Prerequisite: 276 or permission of instructor; must be taken prior to or concurrently with 404 and one 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, individual family, group, community and societal contexts integrating the methodologies and techniques used by the social work practitioners.

511 WOMEN’S ISSUES IN SOCIAL WORK PRACTICE 3 credits
Prerequisite: 276 or permission of instructor. Social work practice, knowledge and skill, social welfare institutions and social policy in relation to women’s issues and concerns in the United States.

525 SOCIAL WORK ETHICS 3 credits
Prerequisite: 276 or permission of instructor. Social Worker’s code of ethics as applied to practice, problems and ethical issues in social work.

527 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT I 3 credits
Prerequisite for 427: 276 or permission of instructor; for 527: permission of instructor. Social work perspective on human development across the life cycle. Human diversity approach consistent with the needs of social work students preparing for practice.

530 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT II 3 credits
Prerequisites: 420, 425. Focus on social work ethics. Emphasis on social workers understanding of and use of individual interaction and growth within family as a system, groups, roles, organizations, community, and culture.
540 SOCIAL WORK RESEARCH I 3 credits
Prerequisites: for 440: 276 or permission of instructor: for 540: permission. Social work practice is built on a foundation of informed evidence. Course focuses on the development and implementation of interventions with theories and development of social work practice research as found in social work and social science literature for improvement and advancement of social work practice.

541 SOCIAL WORK RESEARCH II 3 credits
Prerequisites: for 441: 276 or permission of instructor: for 541: permission of instructor. Examines components of social work intervention with individual, group and community. Processing and interpreting data for informed practice and administrative decisions.

545 SOCIAL POLICY ANALYSIS FOR SOCIAL WORKERS 3 credits
Prerequisites: for 445: 276 or permission of instructor: for 545: undergraduate social work degree or permission. Description, analysis, and construction of social policy in social services: understanding forces and processes which establish or change social policies, to predict consequences of social policies, and to establish goals for social policy development, integrated to effective social work methodology.

550 NEEDS AND SERVICES FOR LATER ADULTHOOD AND AGING 3 credits
Prerequisite: 276 or permission of instructor. Application of knowledge and principles of professional social work practice to understanding, development and provision of social services to meet needs of aging and later maturity individuals, families and communities and institutions: how to provide for them and their relatives.

551 SOCIAL WORK IN CHILD WELFARE 3 credits
Prerequisite: 276 or permission of instructor. In-depth exploration of structure and functioning of social services designed to help children, and of practice of social work in child-welfare settings. Fundamentals of practice, case management and program planning in a social work agency. Examines the social work/welfare agency in its community as it affects its organizational goal-setting and program-implementation problems.

552 SOCIAL WORK IN MENTAL HEALTH 3 credits
Prerequisite: 276 or permission of instructor. Issues, organization, development, and methodologies of current professional social work practice in mental health settings.

554 SOCIAL WORK IN JUVENILE JUSTICE 3 credits
Prerequisite: 276 or permission of instructor (undergraduate). The theory and practice of social work in juvenile justice systems of the United States. Traditional procedures and recent developments, prevention, diversion and community outreach, legal concerns, case management, institutional functioning.

555 THE BLACK FAMILY 3 credits
Prerequisite: 276 or permission of instructor. Contemporary problems facing black families: male-female relationships, single parent households, black teens and elderly, public policy, theoretical and practical development of the black family.

556 SOCIAL WORK IN HEALTH SERVICES 3 credits
Prerequisite: 276 or permission of instructor. Policies, programs and practice in healthcare settings: the interrelatedness of hospitals, long-term care, health and long-term health, outpatient services, emergency services, clinics, visiting nurse services, nursing homes, pediatric services, self-help organizations.

558 ADULT DAY CARE 3 credits
Prerequisite: for 458: 276 or permission of instructor: for 558: permission of instructor. Planning, development, implementing, evaluating, and delivery of adult-day care services.

559 SOCIAL WORK WITH THE MENTALLY RETARDED 3 credits
Prerequisite: 276 or permission of instructor. Application of social work principles in the provision of social services to meet the needs of the mentally retarded and developmentally disabled and their families.

565 ADMINISTRATION AND SUPERVISION IN SOCIAL WORK 3 credits
Prerequisite: 558 or permission of instructor. Preparation for use of supervision, staff development and program planning in a social work agency. Examines the social work/welfare agency in its community as it affects its organizational goal-setting and program-implementation problems.

570 LAW FOR SOCIAL WORKERS 3 credits
Prerequisite: 276 or permission of instructor. Fundamental terminology, theories, principles, organization, and procedures of law will be explored along with the relationships between social work and law and comparisons of the theoretical bases of the two professions.

575 SUBSTANCE ABUSE AND SOCIAL WORK PRACTICE 3 credits
Prerequisites: 558 or permission of instructor. Provides students with the essential knowledge and skill for successful social work practice with people involved in substance abuse.

580 SPECIAL TOPICS IN SOCIAL WORK AND SOCIAL WELFARE 3 credits
Prerequisites: permission of instructor. Analyzes current work and social welfare theory and policy, settings, innovative interventions and trends in delivery systems related to changing conceptions of concern, enable and variables.

579 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK SOCIAL WELFARE 3 credits
Prerequisites: permission and prearrangement with instructor: Individual readings, research or research projects of an interdisciplinary welfare/health theme or related community operations or in social work practice under guidance of social work faculty member. Preparation of report paper appropriate to nature of topic. For social work major.

601 FOUNDATION FIELD PRACTICUM 3 credits
Prerequisite: first of two field practicum courses to be taken in the first year of the MSW program. A two-semester, 400 clock hour, supervised internship at a social agency service agency. Credit/Noncredit. (Offered only Fall Semester.)

602 FOUNDATION FIELD PRACTICUM 3 credits
Prerequisites: second of two field practicum courses to be taken in the first year of the MSW program. A two-semester, 400 clock hour, supervised internship at a social service agency. Credit/Noncredit. (Offered only Spring Semester.)

603 ADVANCED FIELD PRACTICUM 3 credits
Prerequisites: first of two field practicum courses to be taken in the second year of the MSW program. A two-semester, 500 clock hour, supervised internship at a social service agency, based on the student’s concentration and specialization. Credit/Noncredit. (Offered only Fall Semester.)

604 ADVANCED FIELD PRACTICUM 3 credits
Prerequisites: second of two field practicum courses to be taken in the second year of the MSW program. A two-semester, 500 clock hour, supervised internship in a social service agency, based on the student’s concentration and specialization. Credit/Noncredit. (Offered only Spring Semester.)

605 SOCIAL WORK PRACTICE WITH SMALL SYSTEMS 3 credits
Prerequisite: graduate status or permission of instructor. Provides the basic knowledge, skills, professional ethics and values necessary for beginning social work practice with small client systems.

606 SOCIAL WORK PRACTICE WITH LARGE SYSTEMS 3 credits
Prerequisite: 605 or permission of instructor. Provides the basic knowledge, skills, and strategies for social work practice with large groups, organizations and communities.

607 ADVANCED PRACTICE WITH SMALL SYSTEMS I 3 credits
Prerequisite: second level graduate student or permission of instructor. This course focuses on the differential assessment of individuals, families and small groups and the application of a range of theory bases.

608 ADVANCED PRACTICE WITH SMALL SYSTEMS II 3 credits
Prerequisite: 607 or permission of instructor. As a continuation of Advanced Practice I, this course utilizes specific theories on the development and implementation of intervention strategies with and on behalf of small systems.

611 DYNAMICS OF RACISM AND DISCRIMINATION 3 credits
Prerequisite: graduate status or permission of instructor. Provides knowledge of analyzing and understanding the factors leading to and sustaining racism, sexism, homophobia, and the like, at macro and micro levels.

612 FUNDAMENTALS OF RESEARCH I 3 credits
Prerequisite: graduate status or permission of instructor. This course provides an introduction to the logic of scientific inquiry, the research process, and the relationship between research and practice.

613 FUNDAMENTALS OF RESEARCH II 3 credits
Prerequisite: 622: statistics course, or permission of instructor. Provides students with an understanding of quantitative and qualitative methodologies and the use of descriptive and inferential statistics in analyzing and interpreting data.

614 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT SMALL SOCIAL SYSTEMS 3 credits
Prerequisite: graduate status or permission of instructor. This course focuses on understanding the human behavior and life cycle development of people as individuals and as members of families and other small groups.

615 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT LARGE SOCIAL SYSTEMS 3 credits
Prerequisite: 613 or permission of instructor. This course focuses on the human behavior of people as members of larger social systems including formal and informal organizations, communities and institutions.

646 SOCIAL WORK PRACTICE I 3 credits
Prerequisite: graduate status or permission of instructor. Examines the historical, philosophical and value bases of social welfare as well as the relationship between social work practice, policy and service delivery.

647 SOCIAL WORK PRACTICE II 3 credits
Prerequisite: 646 or permission of instructor. This course prepares students with the beginning skills to engage in social policy applications.

650 ADVANCED STANDING INTEGRATIVE SEMINAR 6 credits
Prerequisite: advanced standing. Provides an integrative view of social work practice with an emphasis on values, foundation knowledge and skills, and evaluation of professional interventions.

656 SOCIAL WORK PRACTICE WITH GAYS AND LESBIANS 3 credits
Prerequisite: second level graduate student or permission of instructor. This course examines gay and lesbian culture and lifestyles, discrimination based on sexual orientation, and intervention strategies appropriate to practice with gays and lesbians.

663 PSYCHOPATHOLOGY AND SOCIAL WORK 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination of the symptoms, theories, and psychosocial aspects of mental illness, and the role of the social worker in the treatment of mental disorders.

664 DIRECT PRACTICE RESEARCH 3 credits
Prerequisite: second level graduate student or permission of instructor. Provides students with advanced knowledge about the methodology of single system design and skills to implement an evaluation study of their intervention with clients.

665 SUPERVISION AND STAFF DEVELOPMENT 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination of the purpose, functions, and theories of supervision; the impact of cultural, ethnic and social differences in supervision/staff development; and problems encountered.

671 SOCIAL WORK ADMINISTRATION 3 credits
Prerequisite: second level graduate student or permission of instructor. This course focuses on supervisory and managerial roles and functions as they are carried out at different hierarchical levels in human service organizations.

672 COMMUNITY ORGANIZATION AND PLANNING 3 credits
Prerequisite: must have completed first year of master’s program. Required for all second year students. Concentration on Macro Practice sequence. Prepares students to work in communities and public and private agencies.

673 STRATEGIES OF COMMUNITY ORGANIZATION 3 credits
Prerequisite: second level graduate student or permission of instructor. Examines the historical development and assessment of community strategies used to identify community problems, and how to organize and empower diverse community groups.

674 COMMUNITY, ECONOMIC SYSTEMS AND SOCIAL POLICY ANALYSIS 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides a basis for understanding economic systems and analyzing the political framework at federal, state, and local levels and their impact on communities.

675 PROGRAM EVALUATION 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides students with methods of evaluating programs in agencies, including approaches, measurement, design, data analysis and procedures in agency-oriented program outcome research.

676 FISCAL MANAGEMENT OF SOCIAL AGENCIES 3 credits
Prerequisite: second level graduate student or permission of instructor. This elective course concentrates on the financial management of social administration, financial planning and management, principles of economic and fiscal exchange, accountability and fiscal accounting.

680 AGING AND SOCIAL WORK PRACTICE 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination and evaluation of aging programs and policies, demographic trends and the changing role of social service providers.

681 AGING: POLICIES AND PROGRAMS 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination and evaluation of aging programs and policies, demographic trends and the changing role of social service providers.

685 SOCIAL WORK PRACTICE: FAMILY AND CHILDREN 3 credits
Prerequisite: second level graduate student or permission of instructor. Examines the major problems encountered by children and families in the life cycle and explores intervention strategies and programs to address their needs and strengths.

686 SOCIAL WELFARE POLICY AND SERVICES: FAMILY AND CHILDREN 3 credits
Prerequisite: second level graduate student or permission of instructor. Examines federal and state laws, policies, and services governing children and families, including the supportive, supplemental and substitutive aspects of services.

690 ADVANCED PRACTICE AND POLICY IN SUBSTANCE ABUSE 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides students the knowledge and skill base necessary for managing and practicing with people involved in substance abuse, evaluating programs, and preventive work.
THEATRE 7800:

567 CONTEMPORARY THEATRE STYLES 3 credits
A detailed examination of representative plays of the contemporary theatre.

570 THEATRE IN EDUCATION 3 credits
An in-depth examination of current theories, methods, and materials in P12 theatre education and process drama techniques. Field experience provided when possible.

573 METHODS OF TEACHING SECONDARY THEATRE ARTS 3 credits
Prerequisite: Graduate status. This course presents skills, knowledge, and experiences essential to teaching innovative and creative theatre arts in the secondary school through current theories, methods, and materials.

575 ACTING FOR THE MUSICAL THEATRE 3 credits
Prerequisite: Permission. A scene study course in analyzing and performing roles in American musicals. Accompanied provided.

590 WORKSHOP IN THEATRE ARTS (May be repeated for a total of six credits). Prerequisite: Advanced standing or permission. Group study or group projects investigating particular phases of theatre arts not covered by other courses in curriculum.

600 RESEARCH AND WRITING TECHNIQUES 3 credits
Exploration of the basic research tools and methods appropriate to the discipline, including utilization of the computer. Guidelines for writing thesis.

603 SPECIAL TOPICS IN THEATRE ARTS 1-4 credits
May be repeated as different subject areas are covered, but no more than 12 credits may be applied toward M. A. degree. Traditional and experimental courses in theatre, supplementing those offered in the General Bulletin.

605 COLLOQUIUM ON THE ARTS 3 credits
A brief exploration of the major visual and performing art forms and organizations examined in relationship to the business management of arts. Team-taught.

601 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY 1-2 credits
May be repeated for a total of four credits. Prerequisite: permission of instructor. Practice in selected production design/technology operations, applications and techniques as they apply to production projects and major departmental productions.

603 SPECIAL TOPICS IN THEATRE ARTS 1-2 credits
May be repeated for a total of 12 credits. Prerequisite: permission of project advisor. Recognition of work undertaken by the student when performing a role in a theatre production. Credit assigned and work supervised by faculty project supervisor.

DANCE PERFORMANCE 7920:

590 WORKSHOP IN DANCE 1-3 credits
Prerequisite: Permission. May be repeated for a total of eight credits. Group study/projects investigating a particular field of dance not covered by other courses.

NURSING 8200:

509 INTERNATIONAL HEALTH 2-3 credits
Prerequisite: Admission to MSN program. A Comparison of nursing roles and responsibilities in an international environment. The influence of education, ethics, government, demography, and geography on health care will be considered.

512 GLOBAL PERSPECTIVES OF HEALTH AND HEALTH CARE 2-3 credits
Prerequisite: Senior or graduate status. May be repeated for a maximum of 6 credits. Cultural, political, educational, and economical perspectives of different regions of the world and the impact of these factors on health will be examined.

553 SCHOOL NURSE PRACTICUM I 5 credits
Prerequisite: 5570:521, 523 and 8200:225 or 650; corequisites: 225 or 650 if not previously completed. Emphasis on clinical primary care nursing to enhance positive health behavior outcomes of well children and adolescents with minor conditions in family, community, school contexts.

554 SCHOOL NURSE PRACTICUM II 5 credits
Prerequisite: 5570:521, 550, 8200:225 or 650, 9200:553. Emphasis on primary health care nursing to enhance positive health behavior outcomes of children/adolescents with minor common health or behavioral problems and chronic illnesses.

561 ADVANCED PHYSIOLOGICAL CONCEPTS IN HEALTH CARE I 3 credits
Prerequisite: admission to MSN program. This course provides an in-depth study of physiological processes in the areas of neurological, neuromuscular and cardiovascular physiology and their interrelationships with therapeutic agents.

562 ADVANCED PHYSIOLOGICAL CONCEPTS IN HEALTH CARE II 3 credits
Prerequisite: 561. This course provides an in-depth study of physiological processes in the areas of respiratory, renal and endocrine physiology and their interrelationship with therapeutic agents.

589 SPECIAL TOPICS: NURSING 1-4 credits
May be repeated as new topics are presented. Group studies of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit.

593 WORKSHOPS 1-4 credits
May be repeated as new topics are presented. Selected topics in nursing. May be used to meet undergraduate/graduate requirements at the discretion of the college.

598 SPECIAL READINGS 1-4 credits
Prerequisite: permission of student's advisor or dean. Special readings in an area of concentration may be taken to satisfy elective credit. Special readings may not be used to satisfy requirements of the major.

603 THEORETICAL BASIS FOR NURSING 3 credits

606 INFORMATION MANAGEMENT IN ADVANCED NURSING PRACTICE 3 credits
Prerequisite: admission to MSN program, completion of Graduate Statistics, 613 or Corequisite: 613. This course is focused on nursing informatics to support clinical decision making in advanced practice and administration.

607 POLICY ISSUES IN NURSING 3 credits
Prerequisite: admission to MSN program. Analysis of policy issues that impact on nursing and health care delivery to diverse populations. Examine methods to shape policy, distribution, and allocation of resources. Web-based course.

608 PATHOPHYSIOLOGICAL CONCEPTS OF NURSING CARE 3 credits
Prerequisite: admission to MSN program. In-depth study of pathological conditions and related treatment modalities. The course focuses on specific nursing interventions related to these pathophysiological abnormalities.

629 PATHOPHYSIOLOGY FOR NURSE ANESTHETISTS 3 credits
Prerequisite: admission to nurse anesthesia program. Course focuses on pathophysiological abnormalities and their anesthetic implications. Normal anatomy and physiology labs, diagnostic including selected major alterations of physiologic function and major anesthetic implications are covered.

610 ADVANCED ADULT/GERONTOLOGICAL ASSESSMENT WITH PRACTICUM 3 credits
Prerequisite: admission to MSN program or permission of instructor, 608. Advanced adult/gerontological assessment and clinical reasoning in primary health care nursing with introduction to differential diagnosis and clinical management.

611 ADVANCED MENTAL HEALTH ASSESSMENT 3 credits
Prerequisite: 608. Concepts related to psychoneuroimmunology are examined with application to differential diagnosis of mental health disorders commonly used by advanced practice psychiatric mental health nurses.

612 ADVANCED CLINICAL PHARMACOLOGY 3 credits
Prerequisite: admission to graduate program. Examines principles of pharmacology and therapeutics for major pharmacologic agents used by Advanced Practice Nurses to manage psychiatric and psychosocial problems in primary health care settings.

613 NURSING INQUIRY I 3 credits
Prerequisite: admission to MSN program. Concepts and ethical issues relating to scientific inquiry are examined, emphasizing the phases of the research process. Students participate in critical analysis of nursing research.

618 NURSING INQUIRY II 3 credits
Prerequisite: 613 or permission of instructor. Emphasis on development of competencies in scientific inquiry. Research practicum will involve a pilot study; or b) participation in faculty research.

605 PERFORMANCE PRACTICUM 1-2 credits
May be repeated for a total of 12 credits. Prerequisite: permission of project advisor. Recognition of work undertaken by the student when performing a role in a theatre production. Credit assigned and work supervised by faculty project supervisor.
620 ADULT/GERONTOLOGICAL HEALTH NURSING NP I 2 credits
Prerequisite: Admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cation program, 610, Corequisite: 610. Recent advances in health promotion and risk reduction.
621 ADULT/GERONTOLOGICAL HEALTH NURSING NP II 2 credits
Prerequisite: 610, 620, Corequisite: 621, 628, 690. Focuses on advanced practice of acute illness in adults, older adults in acute, episodic care settings. Multidisciplinary care planning and collaboration included, associated with promotion to community-based care.
622 ADULT/GERONTOLOGICAL HEALTH NURSING NP III 2 credits
Prerequisites: 621, 628, 690, Corequisite: 629, 692. Focuses on nursing care of middle aged adults as they experience chronic illness. Emphasizes management of problems common to chronic care and rehabilitation.
623 ADULT/GERONTOLOGICAL HEALTH NURSING NP PRACTICUM 2 credits
Prerequisites: 622, 629, Corequisite: 694. Practicum with emphasis on increasing complexity in care of the adult/older adult.
624 ADULT/GERONTOLOGICAL HEALTH NURSING NP IV 1 credit
Prerequisites: 622, 629, 692. Corequisites: 623, 694. Integration of knowledge and skills for a population of adults/older adults in complex illness states and chronic illness systems.
630 RESOURCE MANAGEMENT IN NURSING SETTINGS 3 credits
Prerequisite: Admission to Graduate Program or permission of instructor. Examines management of fiscal and human resources in nursing service settings; analytical approach to problem solving, with emphasis on understanding the role of the nurse administrator.
632 LEADERSHIP IN NURSING ORGANIZATIONS I 3 credits
Prerequisites: Corequisites: 630, 632, 635. Leadership and management theories are utilized in the role of the nurse administrator.
633 LEADERSHIP IN NURSING ORGANIZATIONS II 3 credits
Prerequisites: Corequisites: 633, 638. Leadership and management theories are utilized to guide study of the role of the nurse administrator.
635 ORGANIZATIONAL BEHAVIOR IN NURSING SETTINGS 3 credits
Prerequisite: Admission to Graduate Program or permission of instructor. Examines organizational behavior theories related to systems analysis and assessment of organizational structure in nursing settings.
660 PSYCHIATRIC MENTAL HEALTH, APN I PRACTICUM 2 credits
Prerequisites: Admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certifi-
cation program, 610, Corequisite: 610. Recent advances in psychiatric mental health care to individuals.
661 PSYCHIATRIC MENTAL HEALTH, APN II PRACTICUM 2 credits
667 CLINICAL PSYCHOPHARMACOLOGY 3 credits
Prerequisite: 608 or permission of instructor; Corequisite: 612. Examines principles of neuro-science, pharmacology and therapeutics for psychopharmacologic agents used to manage adult mental health problems in variety of treatment settings.
671 ADULT/GERONTOLOGICAL HEALTH NURSING CNS I 2 credits
Prerequisites: 671, 679. This clinical residency focuses on components of influencing change, systems thinking, leadership within a multidisciplinary collaborative environment using outcomes for come measurement and evaluation.
673 NURSE ANESTHESIA RESIDENCY I 4 credits
Prerequisite: admission into the Nurse Anesthesia program. This course provides a general overview of anesthetic concepts and prepares students for in-hospital residency. The course includes a lecture component and selected laboratory experiences.
684 NURSE ANESTHESIA RESIDENCY II 4 credits
Prerequisite: 644. Emphasis on understanding and physical and psychological assessment of patients and machines used in anesthesia care.
685 NURSE ANESTHESIA RESIDENCY III 4 credits
Prerequisite: 644. Focus on the understanding of physiologic and pathophysiologic principles of particular organ systems and the relevant implications that govern anesthetic management.
686 NURSE ANESTHESIA RESIDENCY IV 4 credits
Prerequisite: 644. Comprehensive review of basic and advanced anesthetic concepts important for anesthetic management.
693 ADVANCED PEDIATRIC/ADOLESCENT ASSESSMENT 3 credits
Prerequisites: acceptance to Child and Adolescent Health Nursing track or permission of fac-
ulty and 608. Corequisite: 651. Advanced pediatric/adolescent assessment and clinical rea-
soning for primary health care nursing with introduction to differential diagnosis and clinical management.
694 CHILD AND ADOLESCENT HEALTH NURSING I 3 credits
Prerequisite: recent care nursing to enhance positive health behavior outcomes of children/adolescents, and those with minor health disruption/problems in family/community contexts.
695 CHILD AND ADOLESCENT HEALTH NURSING II PRACTICUM 2 credits
Prerequisite: admission to Child and Adolescent Health Nursing Program track. Clinical practice course emphasizing primary health care nursing to advance positive health behavior outcomes of children/adolescents and those with minor health disruption/problems in family/community contexts.
696 CHILD AND ADOLESCENT HEALTH NURSING III PRACTICUM 2 credits
Prerequisite: 655. Clinical practice course emphasis on advanced practice in primary health care using consultation and program development, managing the role of the nurse in primary care and the child and adolescent health practices of children/adolescents, and families, and those with minor health disruption/problems in family/community contexts.
697 CHILD AND ADOLESCENT HEALTH NURSING III 2 credits
Prerequisite: corequisites: Post-MSN CAREN certification program students-651 and 655 or MSN CARN students: 655 and 657. Opportunity for the advanced graduate nursing practitioner in Child and Adolescent Health.
698 CHILD AND ADOLESCENT HEALTH NURSING IV PRACTICUM 2 credits
Prerequisite: 667. Clinical practice course emphasizing integration of knowledge and skills with spe-
cific populations of vulnerable children/adolescents and their families. Emphasis on imple-
mentation of programmatic interventions and evaluation.
699 PSYCHIATRIC MENTAL HEALTH, APN I PRACTICUM 2 credits
Prerequisite: Program graduate admission, 608. Corequisite: 661. Emphasis on assessment of behaviors, theories, and techniques in the delivery of psychiatric mental health care to individuals.
700 PSYCHIATRIC MENTAL HEALTH, APN II PRACTICUM 2 credits
Prerequisite: 660, 661. Corequisite: 664. Concepts related to the management of acute psych-
iatric problems will be explored with an emphasis on utilizing psychotherapy and phar-
macy.
701 PSYCHIATRIC MENTAL HEALTH POST MSN RESIDENCY 1-4 credits
Prerequisites: 662, 665. Corequisites: 663, 666. Focuses on behavioral health interventions with families and groups. Theoretical frameworks for direct intervention are examined.
702 PSYCHIATRIC MENTAL HEALTH, APN III PRACTICUM 2 credits
Prerequisites: 660, 665. Corequisite: 667. Concepts related to the management of chronic psychiatric problems will be explored with an emphasis on combining psychotherapy and pharmacotherapy.
703 PSYCHIATRIC MENTAL HEALTH, APN IV PRACTICUM 2 credits
Prerequisites: 660, 661. Corequisites: 667. Students will assess, diagnose, and manage clients with chronic psychiatric problems through the application of psychotherapeutic theories and techniques in various specialty areas.
704 PSYCHIATRIC MENTAL HEALTH-SYNTHEIS, APN I PRACTICUM 2 credits
Prerequisites: 660, 661. Corequisites: 670. Students choose clinical settings to develop expertise in providing complex care to children/adolescents and to advance career goals.
705 PSYCHIATRIC MENTAL HEALTH-SYNTHEIS, APN II PRACTICUM 2 credits
706 PSYCHIATRIC MENTAL HEALTH-SYNTHEIS, APN III PRACTICUM 2 credits
Prerequisites: 660, 667. Corequisite: 669. Students choose clinical settings to develop expertise in providing complex care to adult/adolescents and to advance career goals.
707 PSYCHIATRIC MENTAL HEALTH-SYNTHEIS, APN IV PRACTICUM 2 credits
711 ADULT/GERONTOLOGICAL HEALTH NURSING I 2 credits
Prerequisite: admission to Adult/Gerontological CNS track or permission of faculty and 608. Corequisite: 610. Integrative research and theory integral to advanced practice of adults/older adults with selected common health problems. Emphasis on comprehensive assessment, health promotion and risk reduction.
712 ADULT/GERONTOLOGICAL HEALTH NURSING II 2 credits
Prerequisite: admission to Adult/Gerontological CNS track or permission of faculty and 608. Corequisite: 610. Integrative research and theory integral to advanced practice of adults/older adults with selected common health problems. Emphasis on comprehensive assessment, health promotion and risk reduction.
713 ADULT/GERONTOLOGICAL HEALTH NURSING RESIDENCY 1 credit
Prerequisites: 671, 679. Corequisite: 644. Focus on the understanding of physiologic and pathophysiologic principles of particular organ systems and the relevant implications that govern anesthetic management.
714 ADULT/GERONTOLOGICAL HEALTH NURSING RESIDENCY 1 credit
Prerequisites: 671, 679. Corequisite: 644. Focus on the understanding of physiologic and pathophysiologic principles of particular organ systems and the relevant implications that govern anesthetic management.
### Polymer Science & Polymer Engineering

#### POLYMER ENGINEERING 9841:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>525</td>
<td>INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS</td>
<td>3</td>
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<tr>
<td>527</td>
<td>MOLD DESIGN</td>
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<td>550</td>
<td>ENGINEERING PROPERTIES OF POLYMERS</td>
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<td>POLYMER ENGINEERING SEMINAR</td>
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<td>611</td>
<td>STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTRONIC PROPERTIES</td>
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<td>621</td>
<td>RHEOLOGY OF POLYMERIC FLUIDS</td>
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<tr>
<td>622</td>
<td>ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS</td>
<td>3</td>
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<tr>
<td>623</td>
<td>ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS</td>
<td>3</td>
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<td>631</td>
<td>ENGINEERING PROPERTIES OF SOLID POLYMERS</td>
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<td>641</td>
<td>POLYMERIC MATERIALS ENGINEERING SCIENCES</td>
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<td>RHEO-OPTICS OF POLYMERS</td>
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<td>ADVANCED CHARACTERIZATION OF FUNCTIONAL POLYMERS</td>
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<td>720</td>
<td>MOLECULAR ASPECTS OF POLYMER RHEOLOGY</td>
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<td>721</td>
<td>RHEOLOGY AND PROCESSING TWO-PHASE POLYMER SYSTEMS</td>
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<td>ADVANCED MODELLING OF POLYMER PROCESSING</td>
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<td>RHEOLOGY AND PROCESSING OF ELASTOMERS</td>
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<td>ADVANCED EXTRUSION AND COMPOUNDING</td>
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<td>725</td>
<td>CHEMORHEOLOGY AND PROCESSING OF THERMOSOLS</td>
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<td>STRESS ANALYSIS OF POLYMERS AND COMPOSITES</td>
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<td>732</td>
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<td>735</td>
<td>PHASE TRANSITIONS IN POLYMER BLENDS AND ALLOYS</td>
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<td>736</td>
<td>INJECTION AND COMPRESSION MOLDING FUNDAMENTALS</td>
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<td>737</td>
<td>POLYMER NANOCOMPOSITES</td>
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<td>738</td>
<td>POLYMER COATING TECHNOLOGY</td>
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<td>740</td>
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<tr>
<td>741</td>
<td>PRELIMINARY RESEARCH</td>
<td>1-5</td>
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**Additional Notes:**
- Prerequisite: Permission of instructor. This course is an introduction to coating science. The synthesis of polymeric binders and pigments used in commodity coatings 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.
- Prequisite: Permission of instructor. This course focuses on the fundamental aspects of nanotechnology in general and basic knowledge of polymer/carbon nanoscience and nanotechnology in polymer science.
POLYMER SCIENCE

601 POLYMER CONCEPTS 2 credits
Prerequisite: Permission of instructor. Introduction to basic concepts in polymer science, including polymerization, copolymerization processes and naturally occurring polymers. Polymer nomenclature, definitions and classifications. Polymer stereochemistry and structure-property relationships.

602 SYNTHESIS AND BEHAVIOR OF POLYMERS 2 credits
Prerequisite: 601 or instructor's permission. Introduction to fundamentals and practical aspects of polymer synthesis and reactions of polymers; general knowledge of laboratory and commercial methods for polymer preparation; practical examples.

604 SPECIAL PROJECTS IN POLYMER SCIENCE 1-3 credits
Prerequisite: permission. Research projects of limited nature assigned to student entering polymer science program. Intended to familiarize student with typical problems and techniques in this field.

6028 POLYMER SCIENCE SEMINAR I AND II 1 credit each
Prerequisite: limited to first-and second-year resident graduate students. Participants are to present a 25-minute lecture on some aspect of polymer science and to participate in discussions of lectures presented by other seminar participants.

613 POLYMER SCIENCE LABORATORY 3 credits
Prerequisites or corequisites: at least one of the courses 601, 631, 674, or 701, or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and testing of polymers.

615 LABORATORY COMPUTER APPLICATIONS IN POLYMER SCIENCE 3 credits
Prerequisites: Basic knowledge of computer programming and permission of instructor. Laboratory use of computers in polymer science research for data acquisition, data analysis, graphing, and preparation of reports and thesis.

631 PHYSICAL PROPERTIES OF POLYMERS I 2 credits
Prerequisite: permission of instructor. Thermodynamic and molecular basis of rubber elastic behavior; time-dependent mechanical properties of polymeric materials; melt-flow and entanglements; the morphology of crystalline polymeric materials; fracture of polymers.

632 PHYSICAL PROPERTIES OF POLYMERS II 2 credits
Prerequisite: 631 or permission of instructor. Normal-coordinate theories of molecular motion and applications to time-dependent mechanical, electrical, and scattering properties of polymeric systems; time-temperature superposition; free volume, WLF relation, fracture, glass transition.

674 POLYMER STRUCTURE AND CHARACTERIZATION 2 credits
Prerequisites: 3150:463/563 or permission of instructor. Presentation of statistical description of polymer molecular properties including chain polymerization and degradation, characterization of conformation, molecular weight, local structure, crystal structures and ordering.

675 POLYMER THERMODYNAMICS 2 credits
Prerequisite: 674 or permission of instructor. Presentation of the theories and experiments concerning polymer solutions, polymer phase equilibria, and polymeric phase transitions and dilute solution steady-state transport.

699 MASTER’S THESIS 4-6 credits
Prerequisite: permission. For properly qualified candidate for master's degree. Supervised original research in polymer science, under direction of faculty member, followed by submission of thesis.

701 POLYMER TECHNOLOGY I 2 credits
Principles of compounding and testing, processing principles and types of operation, design principles.

702 POLYMER TECHNOLOGY II 2 credits
Prerequisite: 701 or permission of instructor. Rubber industry, rubber compounding and processing, vulcanization methods, physical testing, plastics preparation and compounding, manufacturing processes. Lecture/laboratory.

703 POLYMER TECHNOLOGY III 2 credits
Prerequisite: 702 or permission of instructor. Flow properties, extrusion, calendaring and molding, mixing, bond operations, engineering properties, rubber springs, viscoelastic analysis design consideration. Lecture/laboratory.

704 CONDENSATION POLYMERIZATION 2 credits
Prerequisite: 3150:463/563 or permission of instructor. Survey of the theory and practice of condensation polymerization. Numerous commercial examples are presented with special emphasis being placed on the properties and applications of polymers prepared by this technique. Structure-property relationships are highlighted for each major polymer class.

705 FREE RADICAL REACTIONS IN POLYMER SCIENCE 2 credits
Prerequisite: 3140:463/563 or permission on instructor. Covers the kinetics and mechanisms of free radical initiated reactions encountered in polymer science, including polymerization methods, detailed considerations of the initiation, propagation and termination steps in vinyl polymerizations and copolymerization, preparation of block and graft copolymers by free radical initiated reactions and the mechanisms of free radical induced polymer degradation reactions.

706 IONIC AND MONOMER INSERTION REACTIONS 2 credits
Prerequisite: 3150:463/563 or permission of instructor. Covers the scope, kinetics and mechanisms of polymerizations initiated by anions, carbene ions and onium ions as well as polymerizations induced by coordination catalysts. Living polymerizations, molecular weights, molecular weight distributions, stereochemistry, solvent effects, counter-ion effects, temperature effects, Ziegler-Natta catalysis, olefin metathesis, functionalization of polymers, graft and block copolymer synthesis.

711 SPECIAL TOPICS: POLYMER SCIENCE 3 credits
Prerequisite: permission. Topics of current interest in polymer science, encompassing chemistry, physics or technological aspects of macromolecular substances, including laboratory work where applicable.

712 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular science.

889 DOCTORAL DISSERTATION 1-15 credits
Open to properly qualified students accepted as candidates for Doctor of Philosophy in Polymer Science depending on the availability of staff and facilities.
Grievance Procedures for Graduate Students

Purpose
The procedures set forth in this document are intended to provide graduate students with a formal channel of appeal and redress of grievances arising out of their academic and/or employment relationship with the University.

Procedures
1. Any graduate student who believes that he or she has valid grounds for a complaint shall attempt to resolve the problem through a conference with the faculty member involved, the department head, and/or the graduate advisor. Following that, the student may attempt to resolve the problem with the assistance of the academic dean. A graduate student presenting a case to the academic dean must provide a full written statement of the grievance, together with all appropriate supporting material. When or if the problem has not been adequately solved at that level or the student wishes to appeal that decision, the student shall prepare a written statement of the complaint setting forth clearly and specifically the allegations and shall hand deliver the written complaint to the Dean of the Graduate School. The Dean of the Graduate School shall notify the complainant confirming the receipt of the complaint and shall request all materials from the Dean of the complainant’s college.

2. Within one week of receipt of the complaint, the Dean of the Graduate School shall communicate with all parties in an attempt to informally resolve the problem. The result of this process will be a recommendation by the Dean of the Graduate School which 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: a. the Dean of the Graduate School has not been able to resolve the problem in writing within one week of notification of the Dean of the Graduate School’s decision on the complaint; or b. the student wishes to appeal the recommendation of the Dean of the Graduate School. The student must notify the Senior Vice President and Provost in writing within one week of notification of the Dean of the Graduate School’s decision on the complaint.

4. Upon receipt of the grievance, the Senior Vice President and Provost shall notify in writing the President of Graduate Student Government that a Hearing Committee should be constituted. The Hearing Committee shall be organized in no more than two weeks.

5. When the grievance has been filed with the Chairperson of the Hearing Committee, it shall be the responsibility of that Chairperson to notify in writing all parties involved in the grievance within two working days. 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 an appropriate resolution in consultation with the Hearing Committee.

7. If the party charged in the grievance denies the validity of the grievance, the Hearing Committee shall conduct the hearing.

Hearing Committee
A Hearing Committee shall be established as follows:

1. Chairperson – The Chairperson shall be a member of the graduate faculty with full membership, but not from a department involved in the proceedings. This Chairperson shall be selected by the Senior Vice President and Provost 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. From the complainant’s department - a graduate student not directly involved, selected jointly by the Department Chair and the President of the Graduate Student Government. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the department, the Senior Vice President and Provost shall substitute for the Department Chair.
   b. From the complainant’s department - a faculty member not directly involved, selected jointly by the Department Chair and the President of the Graduate Student Government. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the department, the Senior Vice President and Provost shall substitute for the Department Chair.
   c. A graduate student not involved with the complainant and not from the complainant’s department, selected by the Vice Chairperson of the Graduate Council.
   d. A member of the graduate faculty with full membership not involved in the complaint nor from the complainant’s department, selected by the Senior Vice President and Provost.

3. A Hearing Committee shall be organized anew each and every time a grievance is brought forth. A Hearing Committee shall serve through the adjudication and resolution of the complaint.

Hearing Procedure
1. The hearing must take place within two weeks of the Hearing Committee’s formation.

2. At least three working days prior to the hearing, the Hearing Committee Chairperson shall provide the Hearing Committee and the parties involved with:
   a. The student’s written statement of the grievance.
   b. Written notification of when and where the Hearing Committee shall meet.
   c. A copy of “Grievance Procedures for Graduate Students” and all relevant documents.

3. Each party shall be required to appear in person before the Hearing Committee to present his/her case. Each party may have an advisory colleague present to protect his/her rights if so desired. However, the parties shall speak and act on their own behalf. Witnesses may be called to present evidence on behalf of the complainant or the charged person. The use of tape recorders is prohibited, except as may be required to accommodate persons with disabilities.

4. All parties shall be entitled to an expeditious hearing. In urgent cases in which it is alleged that a regulation, 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.
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 student’s prior consent.
- Disclosure may be made to authorized representatives of the U.S. Department of Education, the Office of Inspector General, or state and local education authorities. These officials may have access to education records as a part of an audit or program review, 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 expectations. 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, the University Registrar, whose office is located in Simmons Hall, Room 120. In addition, this policy may be accessed online at http://www.uakron.edu/ogc/docs/11-08_6-25-07doc.
- 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.

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The Family Educational Rights and Privacy Act of 1974 (FERPA) permits The University of Akron to release directory (public) information about students. Directory (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) 972-6007.

Withhold Directory Information

Note: The above is a very general summary of the Family Educational Rights and Privacy Act (FERPA) and the University's policy implementing this law. The full text of the University’s policy implementing FERPA may be accessed at http://www.uakron.edu/ogc/docs/11-08_6-25-07doc.
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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.

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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.

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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.

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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.

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Questions of Authorship and Inventorship

In the event you think you have been improperly omitted from the list of authors, you should first discuss the matter with your faculty advisor. If you have further questions or consider the matter unresolved, you should inform in the following order the appropriate department chair, the college dean, and finally the Dean of the Graduate School. (Questions are usually, and most quickly, resolved at the lowest administrative levels.)

In the event you think you have been omitted as an inventor on a patent application, you should first discuss the matter with your faculty research advisor and, thereafter, with your department chair and finally with your academic dean. Following such consultations, either you and/or your faculty advisor, or your department chair, or your dean can request the patent attorney, who prepared the application to recheck the findings and then prepare a formal report on inventorship. The whole patent application file may then be referred to the Office of General Counsel for a re-evaluation of valid inventors. However such as re-evaluation by patent counsel shall only occur with the prior knowledge of your faculty advisor, Department Chair and Dean.

The University of Akron INVENTION PATENT AGREEMENT

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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.

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