**Calendar 2010-2011**

**Fall Semester 2010**

- Day and evening classes begin: Mon., Aug. 23
- *Labor Day (day and evening)*: Mon., Sept. 6
- Spring 2011 advancement to candidacy due: Wed., Sept. 15
- Veterans Day (classes held; staff holiday): Thu., Nov. 11
- **Thanksgiving Break**: Thu.-Sat., Nov. 25-27
- Classes resume: Mon., Nov. 29
- Final instructional day: Sat., Dec. 4
- Final examination period: Mon.-Sat., Dec. 6-11
- Commencement: Sat., Dec. 11
- Winter Recess: Sat.-Sat., Dec. 18-Jan. 8

**Spring Semester 2011**

- Day and evening classes begin: Mon., Jan. 10
- *Martin Luther King Day*: Mon., Jan. 17
- Summer 2011 advancement to candidacy due: Tue., Feb. 15
- *Presidents’ Day*: Tue., Feb. 22
- Classes resume: Mon., Mar. 21
- Final instructional day: Sat., Apr. 30
- Final examination period: Mon.-Sat., May 2-7
- Commencements: Fri.-Sun., May 6-8
- School of Law Commencement: Sun., May 15
- Fall 2011 advancement to candidacy due: Mon., May 16

**Summer Sessions I, II, and III 2011**

- First 5- and 8-week Sessions begin: Mon., May 16
- *Memorial Day*: Mon., May 30
- First 5-week Session ends: Sat., Jun. 18
- Second 5- and 8-week Sessions begin: Mon., Jun. 20
- *Independence Day*: Mon., Jul. 4
- First 8-week Session ends: Sat., Jul. 9
- Third 5-week Session begins: Mon., Jul. 11
- Second 5-week Session ends: Sat., Jul. 23
- Third 5-week and Second 8-week Sessions end: Sat., Aug. 13
- Summer Commencement: Sat., Aug. 13

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**University Closing Policy**

The safety of students, faculty, and staff is the University's highest priority. When severe weather is predicted or when emergencies arise, the president or designee will determine when classes should be canceled or when closing decisions should be made. Closing information will be announced as early and as simply as possible. This information will be relayed to students in several ways:

- **Radio and TV**: Closing information will be provided to major radio and television stations in Akron, Canton, and Cleveland.
- **On the Web**: Closing information will be posted on the University's homepage at [www.uakron.edu](http://www.uakron.edu), and on ZipLine at [http://zipline.uakron.edu](http://zipline.uakron.edu).
- **E-mail**: A message will be sent to students’ and employees’ University mailboxes.
- **Text messaging**: A message will be sent to anyone who subscribes to our Z-Alert text messaging service. Learn more about it at [http://www.uakron.edu/info/zhalert.php](http://www.uakron.edu/info/zhalert.php).
- **By phone**: The University’s emergency information phone line is updated around the clock as conditions warrant. The number is 330-972-SNOW or 330-972-6238 (TDD/Voice).

University colleges and departments are encouraged to establish a method for communicating the closing decision to department personnel.

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**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. Newkome ........................................... 972-6458
Associate Dean, Graduate School
Dr. Mark B. Tausig ............................................... 972-7664
Senior Executive Administrative Assistant
Ms. Linda Smith ................................................... 972-6458
Administrative Assistant Senior
Ms. Heather A. Blake ........................................... 972-7664
Coordinator, Graduate Student Financial Aid
Mrs. Karen L. Caldwell ........................................ 972-5858
Director, McNair Scholars Program
Ms. Billi F. King .................................................. 972-2135
Examiner Associate
Ms. Elizabeth Markovich ...................................... 972-5858
Manager, Graduate Admissions
Ms. Theresa M. McCune ...................................... 972-2484
Student Services Counselor
Mrs. Leanne McNicholas ..................................... 972-5169
Student Services Counselor
Mrs. Sarah Sir Louis ............................................. 972-2484

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
College of Business Administration ................... 972-7041
College of Creative and Professional Arts ............ 972-7564
College of Education ........................................... 972-6970
College of Engineering ....................................... 972-7816
College of Health Sciences and Human Services ..... 972-7543
College of Nursing ............................................. 972-7551
College of Polymer Science and Polymer Engineering. 972-7500
NEOUCOM (Northeast Ohio Univ. College of Medicine) . 325-2511
The University of Akron–Wayne College ................ 1-800-221-8308
Summit College .................................................. 972-7220
University College .............................................. 972-7066

Other Offices
Accessibility, Office of .......................................... 972-7928
TTY/TDD ............................................................ 972-5764
Buchtelite, The (student newspaper) .................. 972-7919
Career Center ...................................................... 972-7747
Student Employment .......................................... 972-7405
Work Study ......................................................... 972-8074
Center for Child Development ................................ 972-8210
Commuter Central .............................................. 972-8690

Important Phone Numbers

Counseling Center
Counseling Services ............................................ 972-7082
Testing Services .................................................. 972-7084
English Language Institute .................................... 972-7544
Financial Aid, Office of Student ............................ 972-7032
Scholarships (non-University) ............................... 972-6368
Scholarships (University) ...................................... 972-6343
Toll-Free .............................................................. 1-800-621-3847
Health Services, Student ...................................... 972-7808
International Programs ....................................... 972-6349
Education Abroad ................................................. 972-7460
Immigration (Prospective Students) ...................... 972-6740
Immigration (Current Students) ............................ 972-6296
J-1 Scholars/SEVIS ............................................. 972-8391
Libraries, University
Bierce Library ...................................................... 972-8161
Law Library .......................................................... 972-7330
Science and Technology Library ......................... 972-7195
University Archives ............................................. 972-7670
Military Services Coordinator and Counselor .......... 972-7838
Multicultural Development, Office of .................. 972-7658
Academic Support Services/Access and Retention .. 972-6769
Ohio Residency Officer ......................................... 972-7836
Pan-African Culture and Research Center ............... 972-7030
Parking Services .................................................. 972-7213
Peer Counseling Program ..................................... 972-8298
Photocopying
DocuZip (Student Union) ..................................... 972-7870
Polinsky Building ............................................... 972-2043
Registrar, Office of the University ....................... 972-8300
Registration, records, graduation, scheduling, transcripts, enrollment and
degree verification, Ohio residency, and military services
Residence Life and Housing .................................. 972-7800
Student Affairs, Vice President for ....................... 972-7067
Student Judicial Affairs .......................................... 972-6380
Student Union
Information Center ............................................. 972-INFO (4636)
Reservation Line .................................................. 972-8699
Tours (of the University) ....................................... 972-7077
WZIP-FM Radio Station ........................................ 972-7105
Zips Programming Network ................................... 972-7014

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)
The University of Akron 2010-2011

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 that draws upon the energy, and financial support of an Akron manufacturer of farm equipment, John R. Buchtel, were instrumental in persuading the Ohio Universalist Convention to build its college on a hill overlooking the town that stretched along the Ohio Canal. The grateful trustees responded by naming the school Buchtel College. It is also significant that during its first few decades, the struggling institution was repeatedly aided in its efforts to survive by various local entrepreneurs who pioneered and prospered in such industries as ceramics, 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 (1936), Law (1939), Community and Technical College (now Summit College) (1964), Fine and Applied Arts (1967) (in December 2008, the programs in the college became part of two distinct units: the College of Creative and Professional Arts and the College of Health Sciences and Human Services), Nursing (1967), and Wayne College (1972).

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 gap 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 new ideas; foster the free enterprise system by sharing new ideas; foster the development of 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 and graduate 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, 28,000 students from 44 states and 84 countries are enrolled in its 11 degree-granting units. The Princeton Review listed The University of Akron among the “Best in the Midwest” in its 2010 edition of Best Colleges: Region by Region. Its College of Polymer Science and Polymer Engineering 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 nearly 147,000 and include scientists, engineers, artists, lawyers, educators, nurses, writers, business people, and other professionals at work in every state and throughout the world.

The 221-acre Akron campus, with 88 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 Domp and Sundet University, the Emily Davis Gallery, and E.J. Thomas Performing Arts Hall, the flagship performance venue for the region. The critically acclaimed Akron Symphony Orchestra, Tuesday Musical and UA Steel Drum Band perform at Thomas Hall. The University joined the Mid-American Conference in 1991 and participates on the NCAA Division I level in 19 sports.

The University’s ongoing, major campus renovation that began in 2000, the “New Landscape for Learning,” has added 18 new facilities, 17 major additions or renovations, and 34 acres of green space.

For more than 140 years, The University of Akron has been an active participant in Akron’s renaissance of commercial and artistic endeavor, a leader in the metropolitan area’s intellectual and professional advancement, a center for internationally lauded research efforts and a source of enrichment, education, and vitality for Northeast Ohio. Our history is a long and proud one — yet at The University of Akron, our eyes are on the future, for our students, our faculty and staff, our community, and our world.

MISSION STATEMENT

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

CHARTING THE COURSE

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

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

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

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

The University will continue to build a leadership position in information technology and computer preparation that thrusts today’s technically 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, admin-
itors, 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 teaching/learning 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 faculty member of our college 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 beliefs, reference, or sexual orientation with equitable respect and consideration. Faculty should value and pursue excellence in teaching as well as research. Faculty shall not engage in sexual or other forms of harassment or engage in inappropriate dual relationships with students. Faculty must not tolerate academic dishonesty nor discrimination or harassment from students to other students.

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

On the Campus

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

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

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

Additional Behavioral Expectations

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

ACCREDITATION

Accreditation assures that degrees are recognized and approved by select regional and national education associations, societies and councils. 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. 846 South La Salle Street, Suite 7-500 Chicago, IL 60604 (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 University is accredited by the following:

The School of Law is accredited by The Higher Learning Commission of The North Central Association of Colleges and Schools.

Specialized Accreditations:

The University also holds membership in the following organizations:

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

The University also holds membership in the following educational organizations:

The American Association of Colleges of Nursing
The American Association of Community Colleges
The American Association of State Colleges and Universities
The American Council on Education
The American Society for Engineering Education
The American Society for Training and Development
The Council of Graduate Schools
The National League for Nursing
The International Fire Service Accreditation Congress
The International Fire Service Accreditation Congress
The National Association of State Universities and Land-Grant Universities
The North American Association of Summer Sessions
The Ohio College Association
The Ohio Continuing Higher Education Association
The Ohio Department of Education
The Professional Society for Sales & Marketing Training
The Professional Society for Sales & Marketing Training

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

Currently, the Akron campus covers 221 acres and encompasses more than 88 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 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 Track field, 300-meter six-lane Mondo track, 8,000-square foot strength and conditioning 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 collections, the facility houses audio-visual materials, maps, and microforms.

Buchtel Hall. Originally built in 1870, this structure was destroyed by fire in 1899 and rebuilt in 1901 (Buchtel Hall I). 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.

Business Administration Building. This facility, located at 259 South Broadway, houses offices, classrooms, and laboratory facilities for the dean of the College of Business Administration, the George W. Daverio School of Business Administration, and the Department of Finance, Marketing, and Management.

Center for Child Development. This former Girl Scout regional headquarters building at 108 Fr 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 Technology Services offices, main computers, and Information Technology Services (Electronic Repair and Distributed Technology Services).

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 complex was formally opened in 1973. Designed to accommodate concerts, opera, ballet, and other productions, the 2,700-seat auditorium hall is a combination of 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, metal smithing, 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 Dean 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 Creative and Professional Arts and the Department for the School of Dance, 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 6,500. 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.

Infocision Stadium-Summa Field. Located at 375 East Exchange, this state-of-the-art multiplex facility was completed in 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 remodeling of the building have provided space for student, 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 service restaurant is open for lunch between 11:30 a.m. and 2 p.m. Business and departmental functions, banquets, receptions, and parties can be scheduled during the hours of 7:30 a.m. to noon.

McDowell Law Center. Named for C. Blake McDowell, prominent local attorney, alumnus, and benefactor of the University, the center houses the College 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 and support 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.

Ocasek Natatorium. Named for former Ohio State Senator, Oliver Ocasek, the natatorium houses an Olympic-size swimming pool with adjacent spectator seating area, locker rooms, and showers. It also houses eight racquetball courts as well as cardiovascular fitness and strength training areas.

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.

Olsun 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.

The Polsky Building. 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 154-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 an all you can eat dining facility that is open throughout the week and on weekends.

Schrann Hall. Named for Harry P. Schrann, longtime member and chairman of The University of Akron's Board of Trustees. This complex, which adjoins Aubum Science and Engineering Center, is composed of two academic structures and a parking deck. Schrann Hall North contains space for Adult Focus, Biology, College of Engineering, Computer-Based Assessment and Evaluation, Summit College and Women's Studies. Schrann Hall South contains space for the School of Family and Consumer Science, ROTC-Military Science, in addition to Summit College's Engineering and Science Technology Department.

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


Student Recreation and Wellness Center. This facility, which opened in 2004, houses all of the recreational and fitness equipment, services and programs that support our students’ health, well-being and balanced lifestyles. The building is connected to the Ocasek Natatorium. Student Health Services can also be found inside the center.

Student Union. The Student Union, located in the center of campus, serves as a hub for social and educational activities for students, faculty, and staff. This facility houses various food venues, a ballroom and meeting rooms, theater, game room, student organization offices, Student Judicial Affairs, Computer Solutions — the computer help desk for the southeast corner of the university, DocuZip copy center, bank, Information Center, Planet Underground, Starbucks, Zip Card office and Barnes and Noble Bookstore. Visit our Web site at http://www.uakron.edu/studuniv.

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 Chemical and Biomolecular Engineering, faculty offices and research areas, and a computer lab and classroom center.

Zook Hall. Named in 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 admission advisement offices. Other facilities include a lecture room that seats 245, general classrooms, a science and mathematics classroom/laboratory, a distance learning classroom, a Center for Literacy, two technology-enhanced demonstration classrooms, two computer-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 research facility, a molecular biology research center, modern laboratories, and equipment that includes advanced light microscopes (differential interference contrast, fluorescence), electron microscopes (scanning and transmission), scintillation counters, ultracentrifuges, DNA sequencing apparatus, and physiographs; vehicles, boats and a 400-acre nature preserve are available for fieldwork. Additional information about the department, faculty and programs can be found on the department Web site at www.uakron.edu/college/artsci/depts/biology.

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 laboratory for internet and Web assignments, data analysis, computations, word-processing and printing. The Chemical Stores facility maintains 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 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 digital images of ancient Mediterranean buildings, facts 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. Additional information on the department can be found at www.uakron.edu/college/artsci/depts/csaa.

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 a cluster computer available for research and instruction. Our facilities are state-of-the-art and provide a broad range of experience that is attractive to potential employers.

Department 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 VBNS Internet II network. Many department computers are accessible via the University dial-up lines or the Internet.

The proximity of the faculty offices to the computer laboratories encourages regular interaction between students and faculty. Staff members provide introductory seminars and workshops for new students and introductory workshops for all faculty and students. A friendly, informal, helpful atmosphere makes the department an enjoyable place to learn and gain practical experience. Additional information on the department is available at www.cs.uakron.edu.

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 analytical. The department has equipped the latest computer 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 department computer 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.uakron.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 in its state-of-the-art computer classroom. 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.uakron.edu/english.

The Department of Geography and Planning has an instructional computer lab and software 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. Additional information about the department, the faculty, and programs is available on the department Web site at www.uakron.edu/geography.

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, electron microprobe, a scanning electron microscope, automated electron microprobe, environmental scanning electron microscope, automated x-ray diffractometer. In addition to the standard equipment used to prepare and analyze rocks and sediment, the department has Giddings Soil Probe, Zodiac boat, pontoons—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. Additional information on the department and its programs is available at www.uakron.edu/colleges/entsc/depts/geobey.

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 offers fellowships, sponsors speakers and runs pedagogical workshops. The online Journal of Northeast Ohio History, which offers both editorial experience and opportunities of scholarly publication, has its office in the department. The History suite contains three separate seminar rooms, where undergraduate and graduate students work closely with faculty. More information about the department can be found on its Web site: www.uakron.edu/~history.

The Department of Modern Languages has a Language Resource Center in Olin Hall. The Language Resource Center contains facilities for students to listen to audio-tapes and view videotapes as a class or individually. Fourteen networked multimedia computers have software for additional language practice and foreign language word processing. Access to the World Wide Web provides students with the opportunity to both read and listen to up-to-date news and cultural information in foreign languages.
The Department of Philosophy is located on the second floor of Olin Hall. It houses a small computer lab and a private library for philosophy students. Brief biographies and pictures of each faculty member in the department can be found on the University Web site at www.uakron.edu/philosophy/.

The Department of Physics is located on the first three floors of Ayer Hall. Facilities include research laboratories used for faculty and student research projects, laboratories for experiments associated with coursework and a computer lab for undergraduate and graduate student use, and smaller PC clusters for research. Additional information about the department, its faculty, and its programs is available on the internet at http://www.uakron.edu/colleges/arts/depths/physics/index.php.

The Department of Political Science is located on the second floor of Olin Hall. The department maintains an instructional computer lab consisting used by students as they analyze real world political conflicts. The department also houses the facilities for the internationally known Bliss Institute of Applied Politics, one of the largest internship programs in the area, and the Center for Conflict Management. Additional information about the department, its faculty, and its programs is available at www.uakron.edu/colleges/arts/depths/polisci.

The Department of Psychology is located on the third floor of the College of Arts and Sciences Building. The department maintains three computer labs that are available for undergraduate and graduate students in Psychology. All labs have access to the internet. Supported throughout the labs are statistical packages which include SAS, SPSS, and MPlus. A full-time research programmer/analyst provides hardware and software support for the department and writes custom software for computerized research. In addition to the computer labs, a counseling clinic is maintained by the department and has videorecording capabilities for the study of counseling processes and outcomes. Also, the department's Center for Organizational Research engages in outreach to the greater Akron community and provides applied research experience for students. Additional facilities of the Psychology Department include: research areas for individual computer research and for small group behavior research, and a Test Room where current psychological testing materials are kept. Additional information about the department, its faculty, and its programs, is available on the Internet at http://www.uakron.edu/psychology.

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

The Department of Sociology facilities include research laboratories used for funded research projects and a research laboratory for undergraduate and graduate students. The Newman Library, consisting of current professional journals, is open for students to use. The Department is also affiliated with the Institute for Health and Social Policy. Additional information about the department, its faculty, and its programs is available on the internet at http://www.uakron.edu/sociology.

The Department of Statistics maintains two instructional computer labs. One of these labs is used for class laboratory sessions for the general education statistics requirement courses, Basic Statistics and Statistics for Everyday Life, and is located in the College of Arts and Sciences Building, Room 106. The other lab, located in the College of Arts and Sciences Building, Room 109, is being used for various undergraduate and graduate statistics courses. The Center for Statistical Consulting, housed in the department and maintained by the Buchtel College of Arts & Sciences, provides opportunities for students to gain valuable experience in the practical applications of statistics while interacting with faculty and clients. Additional information about the department, its faculty, and its programs is available on the internet at http://www3.uakron.edu/statistics.

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. The proximity of the faculty offices to the computer laboratories encourages regular interaction between students and faculty. Staff members provide introductory seminars and are always available to assist and guide students. A friendly, informal, helpful atmosphere makes the department an enjoyable place to learn and gain practical experience. The department homepage at www.math.uakron.edu provides updated information about the department, its faculty, programs, and applications.

The College of Business Administration is located in the 81,000 square foot four-story College of Business Administration Building, which houses the college's offices, classrooms, computer laboratories, and advising services. The departments of Finance, Management, Marketing, the George W. 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.

Tered, 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 each equipped with 36 student stations. One of these teaching labs is equipped with distance learning capabilities. The homework laboratory contains more than 75 computers for students. Each PC is equipped with Windows XP, Office 2007, Program 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, leadership, and employment interview preparation.

The Mary S. and David C. Corbin Finance Lab is a state-of-the-art facility that provides an advanced learning environment by offering students the unique opportunity of pulling information from a wide range of sources and presenting it simultaneously on multiple screens. It features five workstations, each computer access to live markets, real-time data feeds, and statis-

College of Creative and Professional 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 location use. There is an audio recording facility with multitrack capability. The School also houses radio station WZIP, an on-air 17500 watt FM radio station serving Northeast Ohio. WZIP-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. Newsroom simulations, and other writing classes have access to a Macintosh computer laboratory with complete desktop publishing layout, graphics, and print capabilities. Additional information about the school, its faculty, and its programs is available at www.uakron.edu/shelscreen.

The School of Dance, Theatre, and Arts Administration is located in the new Center for Dance and Theatre at Guzzetta Hall. The Theatre Program offers graduate programs in Theatre and Arts Administration. It utilizes three different performing spaces to present its annual season of two 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 28, Sandefur Theatre, and Daum Theatre. Additional information about the school, its faculty, and programs is available at www.uakron.edu/music.

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. Additional information about the school, its faculty, and programs is available on the internet at www.uakron.edu/music.

College of Education

The offices, laboratories, and other facilities of the College of Education are located in Zook Hall, Chima Hall, Crouse Hall, the James A. Rhodes Health and Physical Education Building, and Infocision Stadium. 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 Counseling/Therapy, School Counseling and Classroom Guidance for Teachers. The department also operates a multidisciplinary clinic, the clinic for Child Study and Family Therapy. Additional information about the department is available on the internet at www.uakron.edu/colleges/educ/Counseling.

The Department of Curricular and Instructional Studies offers graduate programs leading to the Ph.D. in Secondary Elementary Education as well as the Master's degree. The Master of Arts programs include Elementary Education with Literacy option, Secondary Education, or Secondary Education with Literacy option. The Master of Science in Curriculum and Instruction leads to licensure in a chosen field. Initial teacher preparation programs are available at the graduate level. The early childhood program prepares teachers to teach age three to grade three. The middle childhood program prepares teachers to teach grades four through nine. The secondary program prepares teachers of 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 master teachers. 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 students. Additional information about the department, its faculty, and programs is available on the internet at www.uakron.edu/colleges/educ/education.

The Department of Educational Foundations and Leadership serves undergraduate and graduate students in the College of Education. The department provides graduate courses in school administration and higher education administration. The department members also teach the core curriculum of historical, philosophic, psychological, and social foundations required in all graduate education programs. They teach, advise, and supervise master's theses, and dissertations of students in their degree-granting programs, the master's programs in Educational Foundations, the master's and doctoral programs in Educational Administration, the master's program in Higher Education Administration, masters programs in Postsecondary Technical Education, certificate in Technical and Skills Training and certificate in Postsecondary Teaching. Additional information about the department, its faculty, and programs is available on the internet at www.uakron.edu/colleges/educ/Foundations/index.php.

The Department of Sport Science and Wellness Education prepares students for careers in teaching, athletic training, exercise science, coaching, and related recreational fields. The graduate program in Curriculum and Instruction with Physical Education licensure option P-12 is a collaborative program between the Department of Curricular and Instructional Studies and the Department of Sport Science and Wellness Education. The program offers laboratories for the study of exercise physiology, athletic training, motor behavior, teaching skills (microteaching), and computer utilization in physical and health education. The department has access to the James A. Rhodes Health and Physical Education Building and Infocision Stadium (classrooms, the main gym, an indoor running track, a multi-purpose room, and four teaching station areas), Stress and Health Center, Wellness Center (cardiovascular fitness and weight training areas) Athletic Field House (sports medicine equipment), Ocasek Natatorium (classroom, swimming pool, racquetball courts, and cardiovascular fitness and weight training 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 Olsson Research Building. 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 Biomedical Engineering, Polymer Engineering, and Engineering Management. The Doctor of Philosophy in Engineering is offered in the multidisciplinary 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 Polymer Engineering. This interdisciplinary degree integrates departmental disciplines and is administered by the Dean's Office. The Assistant Director, Doctor of Philosophy in Engineering Department with Youngstown State University and a joint MD/Doctor of Philosophy Degree in Engineering with the Northeast Ohio Universities College of Medicine.

The Department of Biomedical Engineering is located in the Olsson Research Center and has classrooms, instructional laboratories and research laboratories. The department provides educational opportunities at both the undergraduate level (BS Biomedical Engineering) and the graduate levels (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 biomaterials and are active participants in the Institute for Biomedical Engineering Research. There are seven 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, biophysical imaging and minimally invasive surgery. The Orthopaedics Engineering Laboratory is equipped to conduct collaborative research on problems related to stroke, head injury and arthritis patients. The Biomedical Instrumentation Laboratory has continuous 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 anemometry and pulse Doppler ultrasound techniques. The Motion Analysis Laboratory studies all aspects of human movement. This laboratory is equipped with a Vicon Motion Analysis System, two AMTI force plates, a MA-1—EMG system, and associated computer hardware and software. The Biostereometrics Laboratory is equipped to perform spatial analysis using threedimensional 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 infrastructure to investigate all aspects of biomaterials. The facility includes a wet lab for formation, development and analysis of biomaterials, including medical applications for nanotechnology. The tissue culture lab has equipment to investigate the interactions of cells and tissues with biomaterials and to develop tissue engineering scaffolds for developing therapies in regenerative medicine. The Orthopaedics Engineering Research Laboratory has laboratory designed to apply physiologic joint movements, including a custom built spine flexion testing system and a KLKA six-degree of freedom serial robot arm with an ATI Delta six-axis load cell. It also features an optoelectronic camera system, the Optotrack Certus, for measurement of three-dimensional kinematics of multiple rigid bodies and National Instruments data acquisition equipment.

The Department of Chemical and Biomolecular Engineering is located in Whitby Hall and provides educational opportunities for students at both the undergraduate and graduate levels in Chemical and Biomolecular Engineering. The Applied Colloid and Surface Science Laboratory has a state-of-the-art laser light scattering facility including a Lexel argon-ion laser, a vibration isolated optical bench, a Brookhaven correlation and probability analyzer, FTIR-Raman, TGA, and an IBM PCbased data acquisition system. The Biochemical and Environmental Bioengineering Laboratory is a satellite center of the Ohio Biorrocessing Research Consortium, housing a state-of-the-art HPLC-MS with additional liquidnusance, UVVIS, and IR detectors. The labs are well equipped with several bioanalyzer assemblies, Sorvall RC-SC centrifugal with super centrifuge, Perkin-Elmer UVVIS spectrophotometer and LS-65B luminescence spectrophotometer, and online NAD(p)H fluorimeters. The Biomaterials Laboratory is available for polymer synthesis and storage include a nitrogen hood, Sephadex separation columns, an oil bath, a dry bath, a vacuum oven, a Buch Rotory evaporator, and a Labconco lyophilizer.

The Catalysis Research Laboratory is equipped with high pressure and high temperature reactor system with a Nicolet Magna-IR 550 Spectrometer Series II, a Nicolet Magna-SR 560 Spectrometer, a Balzers E.S.P. and a Balzers E.S.P. and a DMC 200 Mass Spectrometer for in situ catalyst preparation, in situ characterization, temperature programmed desorption of NO, H2, and CO, and in situ reaction studies.

Background Information

The Human Interface Laboratory conducts research in virtual reality, telemanipulation, biophysical imaging and minimally invasive surgery. The Orthopaedics Engineering Laboratory is equipped to conduct collaborative research on problems related to stroke, head injury and arthritis patients. The Biomedical Instrumentation Laboratory has continuous 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 anemometry and pulse Doppler ultrasound techniques. The Motion Analysis Laboratory studies all aspects of human movement. This laboratory is equipped with a Vicon Motion Analysis System, two AMTI force plates, a MA-1—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 infrastructure to investigate all aspects of biomaterials. The facility includes a wet lab for formation, development and analysis of biomaterials, including medical applications for nanotechnology. The tissue culture lab has equipment to investigate the interactions of cells and tissues with biomaterials and to develop tissue engineering scaffolds for developing therapies in regenerative medicine. The Orthopaedics Engineering Research Laboratory has laboratory designed to apply physiologic joint movements, including a custom built spine flexion testing system and a KLKA six-degree of freedom serial robot arm with an ATI Delta six-axis load cell. It also features an optoelectronic camera system, the Optotrack Certus, for measurement of three-dimensional kinematics of multiple rigid bodies and National Instruments data acquisition equipment.

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The Multiphase and Solids Processing Laboratory is equipped to do research in filtration 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 Haec Royco BR8 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 distributions. The Nonlinear Control Laboratory is equipped with Unix based workstations and a variety of engineering software packages.

The Supercritical Fluids Laboratory, a key lab in the Ohio Supercritical Fluid Technology Consortium, is equipped with FTIR/RAMAN/ATR, GC/FID/TCD high pressure phase behavior apparatus, Berty Reactor, 14-liter stirred Reactor, dynamic light scatter- ing, mechanical testing and high temperature GC. The Thin Film Laboratory is equipped with plasma systems, thermal chemical vapor deposition, and in situ microbalance.

Additional information about the department, its faculty, and programs is available on the internet at http://chemical.uakron.edu/.

The Department of Civil Engineering is located in the Auburn Science and Engineering Center and Schrank Hall North and has five major laboratories. In the Environmental Engineering Laboratory, students learn to analyze water, wastewater and contaminated soils to assess its quality and to determine the most effective treatment techniques. Laboratory equipment includes UV-visible spectrophotometers, respirometers, gas chromatographs, high-performance liquid chromatography, toxicity analyzers, an atomic absorption spectrophotometer, and a total organic carbon analyzer. Water and wastewater analytical kits are available for field studies.

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

In the hydraulics laboratory a tilting flume enables the student to visualize water flow in streams. The 8-foot long hydrodynamically designed pipe module is used to study frictional losses in different size pipes. Instructional laboratories introduce several hydraulics software tools such as FlowMaster for pressurized pipe and open channel flow calculations, EPANet, for water distribution pipe network analysis, HEC-RAS, for calculating water surface profiles for natural streams and channels, and Water CAD.

In the soil mechanics and foundation engineering lab, a student learns how to analyze soil by a variety of tests and equipment to determine shear strength, compaction characteristics, and consolidation. In addition to the standard equipment for routine testing, the laboratory has a computer-controlled cyclic triaxial testing system, flexible wall permeameters, and particle image analysis systems.

In the structural materials laboratory, students have the opportunity to observe the experimental verification of the behavior of structural materials, members and connections subjected to tension, compression, bending and torsion. Physical testing is accomplished through the use of two universal testing machines with a maximum capacity of 500,000 lbs., five closed loop servo-hydraulic testing machines with a maximum capacity of 100,000 lbs., a load frame used to test full scale members and structural systems and a Charpy impact machine. One of the closed loop machines has the capability to apply both axial and/or torsional loads. Further, a full array of data acquisition equipment is available.

The transportation lab is equipped with a complete signal control system supported by video and laser speed/range detection systems to provide traffic data for systems operation 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.

Additional information about the department, its faculty, and programs is available on the internet at http://civil.uakron.edu/.

The Department of Electrical and Computer Engineering is located in the South Tower of the Auburn Science and Engineering Center. The Department has learning facilities that are available which include laboratories for the study of circuits, analog and digital electronics, microprocessors, microcontrollers, energy conversion, embedded systems, interfacing, power electronics, and electromagnetics/microwave. 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 all software necessary for other courses, as well as word processing and networking software. The laboratory also serves courses in computer engineering and many elective courses and for research purposes.

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

The energy conversion laboratory 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 design of power components and circuits for operation at high voltages, high current and high power. Digital controllers and all digital measuring equipment account for a very modern laboratory.

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

A regularly updated computer laboratory is available for modeling and software development projects in all courses. The senior design project laboratories provide bench space and instrumentation for assembly and test of team projects.

Additional laboratories for signal processing and advanced control exist as part of elective courses.

Additional information about the department, its faculty, and programs is available on the internet at http://ece.uakron.edu/.

The Department of Mechanical Engineering is located in the South Tower of the Auburn Science and Engineering Center. There are eight laboratories in the Department of Mechanical Engineering. The Thermodynamics Laboratory has internal combustion engines, a super sonic wind tunnel, a sub sonic wind tunnel, and a water tunnel. The Heat Transfer Laboratory has temperature measurements systems, a gas laser, and a spectrum of heat exchangers. The Mechanical Measurements Laboratory has a complete complement of transducers, calibration equipment and standards, signal conditioners, analog recording devices and microprocessor-based digital data acquisition systems. The Materials Testing Laboratory has a computer controlled servo-hydraulic structural testing machine and a uniaxial universal testing machine for performing static, quasistatic, cyclic and dynamic tests on a spectrum of engineering materials and several types of hardness testing equipment. The Parker Hannifin Motion and Control Laboratory has hydraulic and pneumatic servo systems as well as serval pilot systems controlled by PLCs and computer controllers. The Experimental Mechanics Laboratory has photoelastic strain measuring equipment and associated facilities, coupled with a complete range of strain gage instrumentation for both static and dynamic measurements.

The Mechanical Design Laboratory has several major software packages for computer-aided design connected to the College's Engineering Computer Network Facility (ECNF). The System Dynamics and Controls Laboratory is composed of several microprocessors, analog computers, and digital computers, 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 level instrumentation, and frequency spectrum analyzers for modal analysis. 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 Vibration and Acoustics Laboratory has electromechanical shakers, sound pressure level instrumentation, and frequency spectrum analyzers for modal analysis. The Metallography and Failure Analysis Laboratory has a complete set of metallographic 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 blending/compounding and molding facilities.

The Akron Polymer Training Center serves as a laboratory for the processing and testing of rubber and plastic materials. This Center provides 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 Electron Optics Laboratory, the Thermal and Dielectric Laboratory, the Rheological Laboratory, and the Mechanical Laboratory.

Additional information about the department, its faculty, and programs is available on the internet at http://mechanical.uakron.edu/.

The School of Family and Consumer Sciences is housed in Schrank Hall South and is accredited by The American Association of Family and Consumer Sciences and offers five graduate programs. Nine laboratories, including a computer center, are available for authentic student learning experiences. All programs provide community experiences through internships, clinicals, and student teaching. These pro-
grams 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 offers 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 and delivery of effective nutrition interventions. The Center also serves as an educational resource for students and the community, provides nutrition services and conducts research. Additional information about the school is available on the internet at http://www.uakron.edu/colleges/ffa/schools/fcs.

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. Additional information about the school, its faculty, and programs is available on the internet at http://www.uakron.edu/colleges/ffa/schools/socialwork.

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. Additional information about the school, its faculty, and programs is available on the internet at http://www.uakron.edu/colleges/ffa/schools/asla.

College of Nursing

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

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. 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, psychiatric mental health nursing, child and adolescent health nursing, and nurse anesthesia. Postmaster certificate programs include adult/gerontological health nursing, psychiatric mental health nursing, 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, the consideration of the social, political, legal and economic implications of health care policies and practices, and the dissemination of knowledge.

Additional information about the college and its faculty, and programs is available on the internet at www.uakron.edu/nursing.

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 Polymer Science and Engineering through the Department of Chemical Engineering and Mechanical Engineering for undergraduate students interested in the polymer industry. An option has also been developed in the College of Arts and Sciences in Chemistry which emphasizes polymer science. In addition, an interdisciplinary undergraduate program leading to a degree in Mechanical Polymer Engineering, approved by the faculty of the College of Engineering, the Polymer Science and Polymer Engineering was started in fall 1995.

The facilities of the Department of Polymer Science and the Maurice Morton Institute of Polymer Science (MMIPS) support fundamental and applied research in polymer chemistry, polymer physics, and many aspects of polymer behavior. There are extensive laboratories for polymer synthetic chemistry and for the characterization of macromolecules and polymer morphology. A nuclear magnetic resonance laboratory, operated jointly with the Department of Chemistry, provides several high-resolution instruments supervised by a professional staff. The Applied Polymer Research Center, managed by the University of Akron Research Foundation, but working closely with MMIPS, operates a variety of analytical and compounding/processing laboratories to serve industry and government agencies for a reliable source of problem solving and data. The total value of major instrumentation and equipment housed in the polymer science laboratories exceeds $15 million. Additional information about the department, its faculty, and programs is available at http://www2.uakron.edu/cpsi/pps/PS.

The Department of Polymer Engineering and Institute of Polymer Engineering maintain a broad-based range, state-of-the-art processing, structural, and rheological/mechanical characterization facilities to meet the needs of research and development for materials for energy, environment and bio-tech. Processing instruments are capable of handling nanomaterials, biomaterials and conventional polymer products from a few milligrams to hundreds of kilograms. These include unique tape-casting facilities for nano- and bio-materials processing, thin films, inkjet printing and lithography. The blending and compounding facilities include five twin-screw extruders, a microscale compounding and seven internal mixers with flow visualization capabilities. There are also eight single-screw extrusion lines with ultrasonic and sound wave and rotational mandrel dies for plastics and rubber. Tubular films and cast film extrusion capabilities, as well as two biaxial film stretchers, are also available. The molding facilities include five machines with screw injection molding capabilities, coreless molding and five internal mixers for composites. The department also has capabilities for solution casting and electro-spinning. Characterization capabilities include scanning electron and atomic force microscopy, X-ray diffraction (including a rotating anode X-ray generator), Fourier transform infrared, small angle light scattering, optical microscopy, radiography, differential scanning calorimetry, thermogravimetric analysis, oxygen permeability tester, and surface profiling. Rheological and mechanical testing equipment, including rotation and capillary shear rheometry, dynamic mechanical, tensile and impact testing, are also available. Our students receive hands-on training on the operation of all processing and characterization equipment. Additional information about the department, its faculty, and programs is available at http://www.poly-eng.uakron.edu.

Positioned in the Rubber City, where polymers are the focus of innovation and technology, the Akron Polymer Training Center (APTC) is the training division of the College of Polymer Science and Polymer Engineering. Posed to meet the needs of our changing environment, the center strives to be the world’s leading provider of virtual workforce development and training. The 18,000 sq. ft. facility houses three computer rooms, a polymers-processing laboratory, a computer lab, and a laboratory devoted to chemical measurements and instrumentation.

The APTC serves the region’s academic and industrial needs by offering a wide variety of hands-on, non-credit courses as well as customized training. Since its opening in 1993, the APTC has trained thousands of incumbent employees in the rubber and plastics industry worldwide. By actively listening to our clients, we have responded by adding courses of interest in the new and emerging fields of bio-materials and polymers for bio-medical applications in anticipation of collaboration with the newly formed BioInnovation Institute in Akron. With a diverse set of course offerings that serve our industry, the APTC is the largest polymer training center in the United States.

The center offers 15 non-credit, short courses in the area of rubber chemistry, mixing and compounding. In addition, it presents a full complement of hands-on plastics processing programming designed to enhance the skills of incumbent workers in the plastics processing field. Its world-class training seminars and workshops are presented by instructors from the industry, who bring practical experience to the classroom.

For more information on the center, please contact Tayba Tahir, director, Akron Polymer Training Center, College of Polymer Science and Polymer Engineering, at (330) 972-8661 or via email at tahir@uakron.edu. Visit the APTC website at http://www2.uakron.edu/aptc.

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 and 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 worldwide, the Akron Polymer Training Center is the workforce development division of the Akron Global Polymer Academy. Visit the Academy’s website at http://www.agpa.uakron.edu for additional information.

University Libraries

Library facilities are housed in three separate locations: in Bierce Library on Buchtel Common; the Science Library in Auburn Science and Engineering Center, Room 104; and Archival Services in the Polich Building, lower level.

Library services include reference and research assistance, and user education. Materials are retrieved from the library through the circulation department or obtained from other libraries through the OhioLINK network or other resource-sharing arrangements.

The University Libraries’ collections contain more than 3 million items: books, periodicals, government documents, curricular materials, microforms, maps, audio-visual materials, and archival documents. The library receives more than 15,000 magazines, journals, newspapers, and other serial publications.

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

University identification cards function as library cards. Group study rooms, photo-copy services, and equipment for use in making paper copies from microforms are
available in Bierce Library and in the Science Library. Students may use one of the 180 circulating laptop computers available in Bierce and Science Libraries. Audiovisual Services, located in Bierce Library, Room 75, maintains an extensive centralized collection of media hardware and audio-visual resources for student and faculty use. It also has a collection of instructional materials in various media formats (filmstrips, slides, etc) to supplement classroom instruction. Audio Visual Services also designs, installs, and maintains technology-enhanced general purpose classrooms, offering permanent in-room projection, sound reinforcement and a sophisticated media retrieval system. Additional information about the libraries is available on the internet at http://www.uakron.edu/libraries/.

### Information Technology Services Division

The Information Technology Services (ITS) 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.

Personal productivity tools, network connectivity, and services provide a common infrastructure for the dissemination of information and communications.

### Distributed Technology Services

Distributed Technology Services provides technology and software support services for the campus community.

**Computer Labs:** A combination of 350 Dell wireless laptops are available for two- and four-hour loans in Bierce Library, the Science & Technology Library, Circulation desk, and the Student Union information desk. The wireless laptops can be used anywhere within the University to access the internet, to get mail, or to do class assignments. A general purpose computer lab of 20 Windows Desktop PCs 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 knowledgeable assistance in the setup and operation of their personal computer equipment. CIS 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. CIS will also provide hardware diagnostics, software diagnostics (within reason) and basic troubleshooting. CIS 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 to where the problem lies. CIS can also help you set up your direct network connection 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 Office 2007, 2003, 2000,
- 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 Computer Center, 185 Carroll St., Room 129; (330) 972-7626

**Hours of Operation:** Monday-Friday, 8:00 a.m. - 5 p.m.

**Technology Learning Support Services (TLSS)** 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 Zips Support Centers**

**Bierce 52C**

- **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: 10 a.m. – 4 p.m.
  - Sunday: 1 p.m. – 7 p.m.

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

**The Zips Support Desk** provides call in and email support: (330) 972-6888; and online chat support (support@uakron.edu) 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: 10 a.m. – 4 p.m.
- Sunday: 1 p.m. – 7 p.m.

**Summer 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 (ZPLine), and Springboard! For more information, visit Software Training Service’s Web site at http://www.uakron.edu/its/learning/training/index.php.

**Department of Instructional Services** coordinates the activities of Computer Based Assessment and Evaluation, Design, and Development Services, Distance Learning Services, and Audio Visual Services. Access these services through the Instructional Services website at http://www.uakron.edu/its/instructional_services/

**Computer Based Assessment & Evaluation** supports learning and assessment by providing a variety of online testing, assessment, and survey services. Services offered by CBAE include:

- Design, develop, and deliver online tests
- Provide and support online testing in a proctored testing lab
- Administer placement testing for incoming university students.

The testing lab is located in Schrank Hall North, Room 152. For lab hours, to make a reservation, or for additional information visit the CBAE website at http://www.uakron.edu/testing.

**Design and Development Services** provides support for the design and development of web-based and multimedia instructional materials. Our team is composed of instructional, curriculum, graphics, and multimedia designers and producers.

- We provide support for traditional and online courses using the Springboard! enterprise Learning Management System.
- We support departments in the design and development of online programs and courses that provide access and interaction.
- We offer Web site design and other graphic design for a variety of applications.
- We support faculty in the design and development of Web-based and Web-enhanced course materials, including multimedia and assessment.
- We provide services for instructors in digital photography, high definition and conventional videography, video post-production, and image scanning.
- We offer live and on-demand video streaming and hosting.
- We support classroom technologies such as clicker response systems and lecture capture using CourseCast.
- 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.

For further information, contact Design and Development Services at (330) 972-2149 or visit the website: http://www.uakron.edu/its/instructional_services.

**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.
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
Mark Foster, Ph.D., Director

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 distinctive education ventures. Providing consulting and training services to the polymer industry worldwide, 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 become active and competent in political life; to help maintain a tradition of ethical public service in politics; to foster useful relationships between applied politics and political science; to promote public comprehension of political organizations and the requirements for their effectiveness; and to improve understanding of continuity and change in American political institutions.

Institute for Biomedical Engineering Research
Daniel B. Sheffer, Ph.D., Director

This institute was established in 1978 to promote interdisciplinary studies in the rapidly growing areas of knowledge which overlap the fields of biology and medicine, on the one hand, and engineering and the physical sciences, on the other. It conducts seminars, courses and degree programs in biomedical engineering in association with the College of Engineering and individual departments.

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

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

Center for Advanced Vehicles and Energy Systems (CAVES)
The Center for Advanced Vehicles and Energy Systems (CAVES), established in 2005, focuses on research, development, and dissemination of advanced automotive technology and alternative energy systems and their enabling technologies. The Center efforts are geared toward product-oriented research, development, and commercialization of efficient cost-effective solutions to alternative transportation systems, advanced energy sources and storage, and their real-time control platforms. In addition to providing research services to industry, private and government agencies, CAVES also provides knowledge dissemination through symposia, lectures, seminars, and project-oriented graduate and undergraduate design experiences.

The Electrical and Computer Engineering and Mechanical Engineering departments have in excess of ten faculty and a large number of graduate and undergraduate students currently involved in hybrid vehicle technology, energy systems, and related areas. CAVES activities are housed within a number of facilities, including the Power Electronics Research Laboratory, the Controls Research Laboratory, the Battery Research Facility, the Hybrid Electric Vehicle Facility, and the Pervasive Automation Laboratory, among others.

Over a dozen M.S. and Ph.D. students have graduated in the last five years in CAVES-related fields. These graduates are actively sought after in the utilities, automotive, and related industries.

Center for Applied Polymer Research
Crittenden J. Ohlemacher, Ph.D., Manager
Robert H. Seiple, M.S., Special Projects

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

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

Center for Conflict Management
William T. Lyons, Jr., Ph.D., Director

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

For more information, contact the office, 202 Olin Hall, (330) 972-5855, w Lyons@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.

The Center for Emergency Management and Homeland Security Policy Research at The University of Akron is dedicated to create a supportive environment for research, academics, and outreach in Emergency Management and Homeland Security. The Center will support and encourage multidisciplinary endeavors in these fields that will make a positive contribution to society.

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 spon-
sored, 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 social 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 a member of the Sloan (Foundation) Work and Family Research Network and can supply current and credible information on work-family issues to its constituencies.

The Center is represented by faculty from the University’s 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: General Mediation, Divine Mediation; and Home-Based Intervention. For more information, please refer to the descriptions of Interdisciplinary and Certificate Programs in this Bulletin or the General Bulletin. Any student, faculty member or community person interested in family issues is invited to call the director to learn how they can participate or learn more about the Center’s activities.

Center for Information Technologies and eBusiness
Bindiganavale S. Vijayaraman, Ph.D., Director

The Center for Information Technologies and eBusiness (CITE) is a multi-disciplinary center within the College of Business Administration. CITE provides an important resource connecting IT executives with IS faculty and students that will provide educational research and networking opportunities. CITE was created in 2000 with the mission to teach students and develop faculty in the principles and practices of the related disciplines of Information Technology and electronic business. CITE is made up of an advisory board of Information Technology leaders from the Northeast Ohio region and the College of Business Administration faculty, staff, and students. The objectives of CITE are to advance information technology (IT), information systems (IS), and eBusiness (EB) programs, research, best practices, and related activities at the University of Akron. Visit the CITE website at http://cite.uakron.edu for more information.

Center for Literacy
Jacqueline Peck, 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 preservice, inservice, 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/colleges/edlclit/index.php

Center for Organizational Development
Corrine Beller, Director

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

Center for Organizational Research
Dennis Doverspike, Ph.D., Director

The Center for Organizational Research is a business research and consulting center managed by the Industrial/Organizational Psychology Department at the University of Akron. The Industrial/Organizational Psychology Department at the University of Akron consistently ranks as one of the top ten programs in the nation (according to U.S. News & World Report). The COR’s mission is to provide top quality consultation and research-based interventions to the business community. The COR also serves the purpose of providing professional training and research opportunities for graduate and undergraduate students. The COR is able to provide a tailored approach to the client’s needs because of its smaller client base and research orientation. COR offers larger organizations access to solutions based on cutting-edge research from a nationally regarded academic program.

Center for Policy Studies
Karl Kaltenhailer, 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’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, to community leaders and to community organizations. Particular expertise is available in program evaluation and program improvement strategies, strategic program planning, strategic management, community needs assessment, community planning and the conceptualization and design of research projects.

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

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 consultation, refer to the Center’s website at http://www3.uakron.edu/stat/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
Bridgie A. Ford, Ph.D., Director

Established initially to research urban education, the Center for Urban and Higher Education was expanded to include higher education in mid-1990s and was restructured in 2004 as a research unit within the College of Education. The Center focuses on public urban education with the broad purpose of improving student achievement pre-K through higher education. It serves the University and the community by providing:

- school-wide professional development for school improvement
- research design and evaluation services, and
- technical assistance to schools and community organizations and agencies by fostering collaboration among faculty, students, practitioners, and community leaders in education conferences and seminars, research, and training for the improvement of the comprehensive performance of all students and establishment and maintenance of authentic parent involvement.

In 2006, the Urban Teaching Scholars Institute (within the Center for Urban and Higher Education) was formed. Its mission is to provide an academically rigorous, interdisciplinary and research-grounded program for preparing teacher candidates for urban schools and communities. The goal is to help teacher candidates better understand, the educational, psychological, and social development of urban and ethnic minority student within today’s diverse urban schools and communities. The
Center’s Urban Teaching Scholars Institute approaches the task of preparing teacher candidates to effectively work in urban schools and communities in these ways:

- reconceptualizing and creating multifaceted systems of recruitment and admissions criteria;
- translating and applying research knowledge about teaching in urban schools to rigor academic curricula;
- exposing the Institute’s scholars to coursework, forums, and symposia presented by urban education experts;
- developing didactical frameworks;
- redesigning practical experiences in urban schools and communities to include individual investigations into the field and;
- mentoring Institute Scholars to publish papers and articles on their experiences and research.

For information visit the Center for Urban and Higher Education website at [http://www.uakron.edu/college/educ/cube/finding.php](http://www.uakron.edu/college/educ/cube/finding.php) or contact the Center for Urban and Higher Education via e-mail at cube1@uakron.edu.

### 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. Its English for Academic Purposes Program provides non-credit ESL courses to international students and nonnative residents who plan to pursue an undergraduate or graduate degree at The University of Akron or another U.S. university. The intensive, 20-hour per week program also serves individuals who wish to improve their English to meet their own professional and/or personal goals.

ELI courses at four levels of English proficiency target language and academic skills needed for successful study at a U.S. university: reading efficiently, writing clearly, taking lecture notes, and communicating effectively in English. Students also study grammar and vocabulary and prepare for language proficiency tests to meet the University’s English requirement. (The TOEFL, Test of English as a Foreign Language, or the ELI-I-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.

In addition to these instructional programs, the ELI administers the University of Akron Developed English Proficiency Test (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/](http://www.uakron.edu/eli/), e-mail [eli@uakron.edu](mailto:eli@uakron.edu), or call 330-972-7544.

### Fisher Institute for Professional Selling

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 Washington, 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 learning experiences, and to advance the knowledge of professional selling through the support of applied research.

### Institute for Global Business

Akhilesh Chandra, Ph.D., Director

The University of Akron received special funding from the State of Ohio to expand its offerings of undergraduate and graduate degree programming in international business. Thus, the College of Business Administration created the Institute for Global Business, which coordinates both credit and noncredit programming in international business. The Institute offers short courses and seminars to assist in improving international competitiveness of area business.

### Institute for Health and Social Policy

Peter J. Leahy, Ph.D., Interim Director

**Mission Statement:** Improving Health and Social Services for Individuals and Communities through Research

The Institute for Health and Social Policy (IHSP), located in the Polsky Building, operates under the direction of the Buchtel College of Arts and Sciences. The Institute, which was established in 1998, is dedicated to the research of health and social services. IHSP values and encourages a multidisciplinary approach to research. IHSP offers graduate students an opportunity to work and learn from some of the top social science researchers in the country.

IHSP provides full administrative support for as many as 48 projects per year - projects that are funded by federal, state, and local agencies. Since its opening the Institute’s staff and researchers have brought in more than $43 million in grants and contracts. Research staff members publish project results, give presentations locally, nationally, and internationally, and belong to more than 60 professional organizations.

IHSP takes pride in the invaluable staff and dedicated researchers who have contributed to its founding and growth.

IHSP supports research and researchers with the following: analytical experience, research support, research co-op, technical support, facilities, compliance, and administrative support.

### Institute of Polymer Science and Polymer Engineering

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

The Institute of Polymer Science and Polymer Engineering provides research support and technical service for the graduate research programs in the Department of Polymer Science and the Department of Polymer Engineering. The technical support staff provide instruction and service for students and faculty in laboratories dedicated to electron microscopy (SEM, TEM, EDS, EDX), polymer characterization (SEC, DSC, TGA, light scattering, FTIR, UV-vis, X-ray, APM, goniometer), polymer processing (mixing, extrusion, film formation, molding, filament winding, pultrusion, electrospinning), electronics and electrical repair, machining, glassblowing and a variety of analytical and processing equipment. In cooperation with the Departments of Chemistry and Chemical Engineering, the University of Akron NMR Center maintains a satellite nuclear magnetic resonance laboratory equipped with 500 MHz solid-state and solution spectrometers supervised by a professional staff. The Polymer Blending and Compounding Center and the Applied Polymer Research Center provide contract technical service for industry and government.

### Institute for Teaching and Learning

Helen Gamm, 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
- Assisting faculty with service learning and undergraduate research experiences
- 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](http://www.uakron.edu/itl) or contact ITL 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 institutes 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.

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 six 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.

Microscale Physiochemical Engineering Center (MEPC)

George G. Chase, Ph.D., Director

The Microscale Physiochemical Engineering Center (MEPC) 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 MEPC 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.

Nutrition Center for Community Health

Annette Mitzel, MSN, RN, Director

The Nursing Center for Community Health 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 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.

Nutrition Center

The University of Akron Nutrition Center is a comprehensive regional center for the study and delivery of effective nutrition interventions. It provides the needed link between UA nutrition expertise and the extensive preventative health care needs of the campus and surrounding community. The center serves as an educational resource for students and the community, provides nutrition services and conducts research in sports nutrition, chronic disease treatment, wellness and disease prevention, nutrition information technology, food safety and sanitation, and community nutrition.

Taylor Institute for Direct Marketing

Michael Kormushoff, Jr., Director

The Taylor Institute for Direct Marketing in the College of Business Administration is the future of direct interactive marketing. With dedicated faculty and staff and a state of the art facility featuring laboratories in telecommunications, TV infomercials, direct response, eMarketing, and marketing analytics, the Taylor Institute is able to provide students with leading-edge skills and practical experiences.

For more information contact Matthew P. Maloney, Marketing and Business Development Manager, at (330) 972-6902 or mmaloney@uakron.edu.

Training Center for Law Enforcement and Criminal Justice

Michael Jalbert, Interim Director

The Training Center for Law Enforcement and Criminal Justice provides Basic Peace Officer Training 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. The Training Center serves a multi-county area, having partnerships with the Medina County Career Center and offering all levels of Fire Classes at the Medina County University Center.

University of Akron Magnetic Resonance Center (UA/MRC)

Peter Rinaldi, Ph.D., Director

The MRC provides UA students and faculty, and the industrial and external academic scientific community, with access to routine and state-of-the-art magnetic resonance facilities and technical expertise. These capabilities include instruments for solution and solid state NMR, electron paramagnetic resonance; and the expertise of technical staff with experience in using these instruments for problem solving in chemistry, biological sciences, and polymer science and polymer engineering. Students and faculty are trained in the use of the instruments and NMR techniques in general through an ongoing educational process. The center has instruments in The Knight Chemical and Goodyear Polymer buildings.

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.

Student Affairs

Counseling Center

The Counseling 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. ULifeLine 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 website.
- 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.
Career Center
The Career Center’s mission is to provide career services to all students and alumni of The University of Akron. Career Services for students and alumni include opportunities to participate in on-campus interviews with representatives from business, industry, education, and branches of the government. Numerous educational outreaches are provided throughout the campus community which include a wide variety of topics such as resume writing, job search skills, dress for success, etiquette dining, and mock interviews. In addition, the Career Center 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. The Career Center 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 available and may be scheduled by contacting the Career Center. The Career 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/career.

The Career Center also houses the Office of Student Employment. Student Employment helps students find part-time job opportunities both on and off campus. The Office of Student Employment can be reached at (330) 972-7405.

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 at 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 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, surgery, and in-hospital medical care. More information on the student health insurance plan is contained in brochures available at Student Health Services or online at www.leonardinsurance.com.

For more information regarding Student Health Services contact (330) 972-7808 or visit the website at http://www.uakron.edu/studenthealthservices/index.dot.

Student Services Center
The Student Services Center’s primary purpose is to act as the customer service arm of the Registrar, Financial Aid, and Student Accounts offices. Students needing assistance in any of these areas should first seek help from the Student Services Center rather than from the specific offices. Center staff are cross-trained in all of these service areas, and our goal is to assist students in one-stop. Quite often student issues involve more than one office, and cross-trained Center staff are able to help answer questions without passing students from person to person or from office to office.

The Student Services Center is located on the first floor of Simmons Hall.

Office of Accessibility
The University welcomes students with disabilities. The mission of the Office of Accessibility is to provide students with full access to and the opportunity for full participation in the academic environment. We are advocates of social justice for students with disabilities and work to end oppression by examining the social, cultural and institutional barriers to inclusion of all students. We embrace the diversity of our student body and celebrate a culturally sensitive and accessible campus through outreach, partnership, and advocacy with many university departments. Our goal is to provide reasonable accommodations and a supportive, well-resourced environment to students with disabilities in order to promote student success in the university environment. For more information, call (330) 972-7928 or (330) 972-5764 (TDD), see our Web site at www5.uakron.edu/access, email access@uakron.edu, or visit Simmons Hall Room 106.

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 three to five years of age.

A summer program is also offered for school-aged children. This program is offered 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, houses numerous functions of student life and student engagement, and serves the students, faculty, and staff. This facility offers various food venues, ballroom and meeting rooms, theater, game room, student organization offices, Student Judicial Affairs, Computer Solutions— the computer technology store, ZipCard office, DocuZip copy center, bank, Information Center, Barnes & Noble Bookstore, Planet Underground, 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.

• DocuZip Copy Center. Located on the second level, offers the following services: copying, including color, oversized and reduced copies; binding of materials; mailing facilities for campus, U.S. mail, and United Parcel Service (UPS); literature distribution; and class support files.

• Barnes & Noble Bookstore is located on the first level. The primary purpose of the Bookstore is to make available books and supplies required for coursework. In addition, the store also carries a wide range of classroom supplies, paperbacks, engineering and art supplies, photo supplies, greeting cards, University memorabilia and clothing.

• The Donfred H. Gardner Theatre. Located on the second floor, screens second-run movies as well as occasional first-run sneak previews. The theater also hosts special events and performances.

• The Information Center, located on the second floor, is operated seven days a week. The Information Center staff can answer questions regarding department and student organizations, on-campus events, and the RIO Express. Laptops can be checked out for use in the Union at the Information Center. Please call (330) 972-4636 if you need a question answered.

• Room Reservations can be obtained in the Student Union. Call (330) 972-8889 to reserve the ballroom and meeting rooms located in the Student Union.

• Computer Solutions, located on the third level, is The University of Akron’s computer technology store. As an education reseller, personal computer hardware, peripherals, and software are available at educational pricing. The store is a service for students, faculty and staff. Computer Solutions is an authorized reseller of Apple and Dell products.

• The Game Room, located on the first floor, has a pool hall, bowling lanes and video gaming. The bowling lanes feature Extreme glow-in-the-dark bowling. Bowling and Billiards physical education classes are conducted in the Game Room.

Student Judicial Affairs
Student Judicial Affairs is the department that receives and reviews referrals that allege violations of the University's Code of Student Conduct. The University of Akron has the responsibility to protect the rights, health and safety of our academic community and to ensure that the members of our community may pursue their educational goals without undue interference. The development and enforcement of standards of conduct for students is an educational endeavor, which fosters students' personal and social development. Students are expected to abide by applicable federal, state, and local laws and may be held accountable for any violations in which they are involved. Confidentiality is maintained and records of proceedings are released in accordance with the Family Educational Rights and Privacy Act (FERPA). All hearings follow written procedures and respect the rights of the individuals involved. By becoming familiar with the definition of student misconduct, students can be aware of their rights and responsibilities as a student at The University of Akron and have a successful, rewarding experience.

Students are advised to become aware of the disciplinary procedures published in the University Rules and Regulations Concerning Campus Conduct and Student Discipline Procedures (Code of Student Conduct). The Code of Student Conduct can be accessed by visiting www.uakron.edu/sja or visiting Student Judicial Affairs, Student Union 216. For more information regarding the Code of Student Conduct, please contact Student Judicial Affairs at sja@uakron.edu or (330) 972-6880.
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.

The University hopes students will read and become familiar with this material and be responsible for their own safety and the safety of others.

University Police
Campus law enforcement is primarily the responsibility of The University of Akron Department of Police. University police provide 24-hour-a-day patrol protection to the campus, parking lots, residence halls, and on-campus fraternity and sorority houses. The police station is located in the Physical Facilities Operation Center at the corner of Hill and South Forge streets and is staffed 24 hours a day. The University’s 40 police officers are commissioned by the State of Ohio with full law enforcement authority and responsibilities identical to the local police or sheriff. The UA Police Department works closely with the Akron Police Department and other law enforcement agencies. Reports are exchanged every business day so that both agencies receive pertinent information. Information is shared through personal contacts and by phone and radio. University and City of Akron police regularly work together at large campus events such as athletic competitions and dances.

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

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

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

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

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

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

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

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

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

Security considerations in maintenance are a high priority.

Police officers patrol parking lots 24 hours each day. UA police also offer assistance to motorists with battery jumps, inflating tires, unlocking vehicles, and obtaining fuel.

To request nonemergency assistance, call extension 2911. To schedule an appointment for an educational program, call extension 2911.

For emergencies, dial 911 from any campus telephone or (330)972-2911 from a cell phone.

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. Summer and break hours vary. By calling extension 7263, an escort will come to the student’s location and accompany him/her to any campus building or parking lot.

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

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

Outdoor security phones are at the main entrances of all campus residence halls. UA Police and other campus numbers can be dialed on these phones.

If using an off-campus phone, dial 330-972 before the campus extension.

Campus Buildings
Most University academic facilities are open to the public from 7 a.m. until the latest time 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-lighted 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 compiles with reporting standards set by the United States Department of Education guidelines. Our crime statistics can
EMERGENCY PHONE NUMBERS
Call extension 911 on campus to reach UA police immediately.

- Police ................................................................. 2911
- Campus Patrol ..................................................... 7263
- (Police Nonemergency) .............................................. 2911
- Environmental and Occupational Health and Safety .............................................. 6866
- Fire ................................................................. 911
- EMS/Medical ..................................................... 911
- Electrical/Plumbing .............................................. 7415
- Hazardous Materials ............................................ 2911
- 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.

Background Information

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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 1904, 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. Cherrington, Jr. served as director of graduate studies from 1955 to 1960 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brinnall was appointed dean of Graduate Studies and Research in 1967, being succeeded in 1968 by Dr. Edwin L. Lively. Dr. Caboucane E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1997. Dr. 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. Carrell 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 under-graduate student who qualifies may enroll in certain graduate-level classes and apply the credits earned to the total required for the baccalaureate degree. To receive graduate credit for the courses, however, the student must first be admitted to the Graduate School.

The Graduate School offers programs of advanced study leading to the degree of Doctor of Philosophy in chemistry, counseling psychology, elementary education, engineering (biomedical, chemical, civil electrical, engineering applied mathematics, mechanical, and polymer), guidance and counseling, history, integrated bio-science, nursing, polymer science, psychology, secondary education, secondary education and urban studies and public affairs. The Doctor of Education degree is offered in educational leadership. 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...
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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 in the graduate programs at the University. They are appointed by the dean of the Graduate School after recommendation by the department, college dean and Graduate Council. Guidelines for recommendation and appointment include the following:

- quality and experience in upper level and graduate-level teaching,
- possession of terminal degree in field,
- scholarly publication record,
- activity in research, and
- activity in profession or discipline.

The purpose of the graduate faculty is to encourage and contribute to the advancement of knowledge through instruction and research of highest quality, and to foster a spirit of inquiry and a high value on scholarship throughout the University.

The graduate faculty recommends a student who has been nominated by the student’s college faculty for the appropriate master’s or doctoral degree.

Graduate Council is elected by the graduate faculty. Membership in the council presently includes two members from the College of Engineering, two members from the College of Business Administration, two members from the College of Education, four members from the Buchtel College of Arts and Sciences, one member from the College of Creative and Professional Arts, one member from the College of Health Sciences and Human Services, 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 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)

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**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. Some programs have earlier deadlines. Applicants should contact the departments for more detailed application information. Information on graduate programs, including application deadlines, is available on the Graduate School website at [http://www.uakron.edu/gradsch](http://www.uakron.edu/gradsch).

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 fee of $25 must accompany all domestic and international reapplications.

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

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

The student is admitted only for the purpose or objective stated on the application for admission. A new request for admission must be filed 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 and staff.

**Nonaccredited American School Graduates**

A student holding a baccalaureate degree from a non-accredited American college or university, is required to complete at least 10 semester credits of postbaccalaureate work at a 3.00 level before being considered for admission to the Graduate School. The accreditation status of the school at the time of the student’s graduation shall apply. A student should consult with the department chair in the major field to develop a postbaccalaureate program.

**Transfer Students**

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

**Entrance Qualifying Examinations**

The use of examinations to determine admisibility 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.
Deferred Admission may be granted if the applicant's record does not meet prior conditions.

Academic Probation status refers to any student whose cumulative 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 prior conditions.

Provisional Admission may be granted to a person who has not met all of the requirements for full admission (2.74-2.5 overall GPA or 2.75 over the last two years). This admission status permits a student to take up to 15 semester credits of graduate coursework. Graduate courses taken under this admission status may be applied to a graduate degree program, but only when all requirements for full admission have been met.

Deferred Admission may be granted if the applicant's record does not meet prior conditions.

Conditional Admission may be granted to a person who has not yet attained the required proficiency in English. This proficiency can be demonstrated by an official TOEFL score of at least 550 (213 on the computer-based TOEFL) or by the successful completion of courses offered by the University’s English Language Institute (ELI). Students must 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 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 bachelor’s 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 granted to a person who is a regularly enrolled student in a degree program at another accredited university and has written permission to enroll at The University of Akron. Such permission is valid only for the courses and semester specified, with a maximum of 15 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 90 credits completed);
- overall grade-point average of 2.75 or better through preceding term (if a student does not have a 3.00 or better in the major field, special justification will be required from the department);
- written approval is given by the instructor of the course and the student’s advisor.

These courses may later be applied to a degree program if not used to satisfy baccalaureate degree requirements. The maximum number of graduate credits that may be taken by an undergraduate and applied later toward a graduate degree is 12. 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 in the following semester (excluding summers). Part-time students are expected to return to good academic standing (overall GPA of 3.00 or above) after two consecutive semesters (excluding summers). These courses may later be applied to a degree program if not used to satisfy baccalaureate degree requirements. The maximum number of graduate credits that may be taken by an undergraduate and applied later toward a graduate degree is 12. Graduate tuition and fees will be charged for all graduate courses taken by an undergraduate.

Academic Dismissal status refers to any student who fails to make satisfactory progress toward declared goals or 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 readmitted for one calendar year and then only if evidence for expecting satisfactory performance is submitted and found to be acceptable.

Postdoctoral status is divided into three categories:
- a Fellow is a person holding an earned doctorate who is engaged in advanced research. A fellow will be considered a guest of the University and provided space and use of facilities within limits of practical need of the graduate and graduate programs. Tuition and fees shall be collected if allowed under sponsoring contract for any courses the fellow may choose to take;
- a Special is a person holding an earned doctorate who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, application fee (if new student) and an official transcript from the institution awarding the doctorate. This student will be treated as a regular student subject to registration fees and program degree requirements;

Sixty-Plus (60+) Program

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

To qualify for the Sixty-Plus Program, the prospective student must be 60 years of age or older and have resided in the State of Ohio for at least one year. Sixty-Plus students are exempt from payment of tuition and general service fees but are expected to pay for any books, special fees, laboratory or instructional fees and parking, if needed. Auditing allows students to attend classes, but college credit is not awarded.

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

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

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

Sixty-Plus students 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, Ohio University, or Youngstown State University without registering as a transient student. The course for which a student wishes to register should conform to the student’s program of study and be available when needed to complete the student’s program at the home institution. The student must be in good standing (GPA>3.0) and within the time limits for degree completion. The graduate program unit at the student’s home institution will establish a graduate special topics or independent study course identification capable of being “tagged” by the
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/current-students/currfunds.dtt

International Students

The University of Akron welcomes international students and seeks to make their educational experience pleasant and meaningful. Currently, over 1,000 international students from 90 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.
- An official transcript and degree from all institutions and universities attended. Original records in languages other than English must be accompanied by exact English translations and certified by the school, U.S. consulate, or other legal certifying authority.
- Proof of adequate financial support. An international student should submit to the Office of International Programs, The University of Akron, Polsky Building, Room 483, Akron, OH 44325-2101, 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.
- International applicants, U.S. citizens, and Permanent Residents whose native language is not English must submit evidence that they have a sufficient level of English to undertake graduate studies at The University of Akron.

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

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

- A minimum score of 550 on the paper-based Test of English as a Foreign Language (TOEFL) or 213 on the computer-based TOEFL or 79 or higher on the internet-based TOEFL. (The following departments require a higher standard of proficiency: the Ph.D. program in Sociology requires a TOEFL of 577/223/80/91; the Ph.D. program in Urban Studies and Public Affairs requires a TOEFL of 570/230/88; English and History require a TOEFL of 580/237/92; and Biomedical Engineering requires a TOEFL of 590/243/96.) Scores more than two years old will not be accepted. See http://www.toefl.org for information about the TOEFL.
- A minimum score of 6.5 on the International English Language Testing System (IELTS) which is managed by University of Cambridge ESOL Exams, British Council, and IDP Education Australia. Scores more than two years old will not be accepted. See http://www.ielts.org for information about the IELTS.
- Successful completion of a full course of study in the Advanced Level of the English Language Institute (ELI) at The University of Akron. The ELI is an intensive (20 hour a week) program in English for academic purposes. The Advanced Level course of study is offered every Fall, Spring, and Summer according to the university's academic calendar. For details about successful completion and about applying to the English Language Institute, see http://www.uakron.edu/eli/.
- Successful completion of 24 credit hours of upper-level undergraduate or 18 credit hours of graduate course work at a U.S. university or college in which English is the primary language of instruction. Successful completion is defined as maintaining a 3.0 GPA in full-time, continuous studies. Applicants must submit original transcripts of their course work.
- 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 documentation and inform the applicant if he or she has satisfied the English requirement. The decision will be final.

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), which can be downloaded at http://www.uakron.edu/aid/immigration/forms.dtt. This form indicates the approximate cost for an F-1/J-1 student, and the student may not apply for assistantships. The student and his or her sponsor should accompany or join the student here. Annual tuition and living expenses for the 2010-2011 academic year will be approximately $24,000. 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 $100 (cost subject to change). The fee will be automatically assessed to student’s account during the first semester of enrollment.

International Transfer Credits

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

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 1995), 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 be taken prior to functioning as a teaching assistant. Those for whom English is the native language and who expect to become a teaching assistant must demonstrate proficiency in English through departmental certification. Neither English proficiency testing nor departmental certification is required for research, instructional support, or administrative assistants.

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

Grades

A student admitted to graduate study under any status at the University is expected to maintain a minimum 3.00 grade-point average (4.00=“A”) at all times. A minimum grade-point average of 3.00 is required for graduation. No more than six semester credits of “C”; “C+”; and “C-” 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:

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<tr>
<th>Grade</th>
<th>Points</th>
<th>Key</th>
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<tr>
<td>A-</td>
<td>3.7</td>
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<tr>
<td>B+</td>
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<tr>
<td>B</td>
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The following grades may also appear on the term grade reports or on the official academic record. There are no grade points associated with these grades.

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

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

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

WD – 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

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 recalculcation 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 being given for a doctoral dissertation. No credit for 699 or 899 will be given unless the thesis or dissertation is completed.

Colloquia, Seminars and Workshops

**Colloquium** (credit/noncredit grading) – A course that normally involves 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 Code of Student Conduct available at www.uakron.edu/sja. In Student Union 216, or by contacting Student Judicial Affairs at 330-972-6380 or sja@uakron.edu.

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 unpublish 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.

An incident of academic misconduct may be resolved and a sanction assessed in a meeting between the faculty member and student. If the student and faculty member agree on the facts of the incident and the proposed sanction, the matter can be resolved informally. Prior to an informal resolution the faculty member shall confer with Student Judicial Affairs to determine whether any prior academic misconduct has occurred. If the student and faculty member disagree about the facts of the incident or the proposed sanction, then the matter shall be referred to Student Judicial Affairs. When the matter is referred to Student Judicial Affairs a meeting will occur, and the evidence indicates it is more likely than not that an academic misconduct violation has occurred the department will follow a procedure that can be found in the Code of Student Conduct at www.uakron.edu/sja.

**Graduate Student Grievance**

Specific procedures are set forth that 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. Discussion of these procedures can be found in the Appendix of this Bulletin.

**Ohio Residency Requirements**

Payment of a non-resident surcharge is required of any student who does not qualify as a permanent resident of Ohio as defined by Section 3333-1-10 of the Ohio Administrative 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. “Resident” 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 who is pursuing a full-time program of advanced learning. The University community is governed by the policies and regulations contained within the Code of Student Conduct available at www.uakron.edu/sja. In Student Union 216, or by contacting Student Judicial Affairs at 330-972-6380 or sja@uakron.edu.

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” shall have the same meaning as “state institution of higher education” as that term is defined in Section 3345.011 of the Revised Code, and shall also include private medical and dental colleges which receive direct subsidy from the state of Ohio.

4. “Domicile” as used in this rule is a person’s permanent place of abode so long as the person has the legal ability under federal and state law to reside permanently at that abode. For the purpose of this rule, only one (1) domicile may be maintained at a given time.

5. “Dependent” shall mean a student who was claimed by at least one parent or guardian as a dependent on that person’s internal revenue service tax filing for the previous tax year.

6. “Residency Officer” means the person or persons at an institution of higher education that has the responsibility for determining residency of students under this rule.

7. “Community Service Position” shall mean a position volunteering or working for: (a) VISTA, Americorps, city year, the peace corps, or any similar program as determined by the Ohio Board of Regents or (b) An elected or appointed public official for a period of time not exceeding twenty-four consecutive months.

C. Residency for Subsidy and Tuition Surcharges Purposes

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

1. A student whose spouse or 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 twelve 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 twelve 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 twelve consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.

3. A dependent student of a parent or legal guardian or the spouse of a person whose 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 the parent, legal guardian, or spouse of the student is employed full-time in Ohio.

   b. A copy of the lease under which the parent, legal guardian, 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, legal guardian, or spouse is the owner and occupant; or if parent, legal guardian, 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, legal guardian, or spouse resides at that residence.

D. Additional criteria which may be considered by residency officials in determining residency 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 Ohio public assistance;

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

2. Criteria evidencing lack of residency

   a. if a person is a resident of or intends to be a resident of another state or nation for the purpose of tax liability, voting, receipt of public assistance, or student loan benefits (if the student qualified for that loan program by being a resident of that state or nation);

   b. if a person is a resident of or intends to be a resident of another state or nation for any purpose other than tax liability, voting or receipt of public assistance (see paragraph (D)2(a) of this rule).

3. For purposes 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.

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 shall be considered a resident of Ohio for these purposes.

2. A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person’s domicile.
3. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.

4. A person who is transferred by his or her employer beyond the territorial limits of the 50 states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.

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

6. A person who was considered a resident under this rule at the time the person started a community service position as defined under this rule, and his or her spouse and dependents shall be considered as residents of Ohio while in service and upon completion of service in the community service position.

7. A person who returns to the state of Ohio due to marital hardship, takes or has taken legal steps to end a marriage, and reestablishes financial independence upon a parent or legal guardian receives greater than fifty percent of his or her support from the parent or legal guardian, and his or her dependents shall be considered residents of Ohio.

8. A person who is a member of the Ohio national guard who is domiciled in Ohio, and his or her spouse and dependents, shall be considered residents of Ohio while the person is in Ohio national guard service.

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 twelve 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. of this rule, 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 twelve months after accepting employment and establishing domicile in Ohio.

4. Any person once classified as a nonresident, upon the completion of twelve 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 twelve 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 2010-2011 and are subject to change without notice.

Application Fee (this fee is not refundable under any circumstances)

- Domestic: $30.00
- International: $40.00
- Domestic Student Reaplication Fee: $25.00
- International Student Reaplication Fee: $25.00
- Retroactive Continuous Enrollment Requirement Fee: $400.00/hr per semester (assessed to doctoral students who are not in compliance with the University’s continuous enrollment policy requiring a minimum enrollment of at least one credit hour for each fall and spring semester)

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

Tuition Fees

- Resident student per credit: $377.78
- CBA student per credit: $414.00
- Non-resident student per credit: $646.88
- Non-resident CBA student per credit: $683.10
- Non-resident Nurse Anesthesia student per credit: $724.50

(application fees apply when auditing classes)

General Fee

- Per credit hour: $14.50 per credit
- Maximum of: $174.00 per semester

Facilities Fee

- Per credit hour: $18.55
- Maximum of: $222.60 per semester

Technology Fee

- Per credit hour: $16.25

Library Fee

- Per credit hour: $3.00

Engineering Infrastructure Fee

- Per credit hour (all Engineering courses): $15.00

International Executive MBA Program

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

Master of Public Health Program

- Tuition:
  - Non-resident surcharge: $269.10 per credit hour
  - Parking (if enrolled in more than five credit hours): $150.00 per semester

Master of Fine Arts

- Tuition:
  - Non-resident surcharge: $269.10 per credit hour
  - Parking (if enrolled in more than five credit hours): $150.00 per semester

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

- Tuition:
  - Non-resident surcharge: $306.00 per credit hour

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

- Tuition:
  - Doctorate in Audiology (Au.D.) (UA and KSU):
    - Non-resident surcharge: $342.00 per credit hour

Transportation Fee (Parking Permit and Roo Express Shuttle Service)

- (assessed to students enrolled in more than five credits on the Akron Campus)
  - Per semester, Fall and Spring: $150.00
  - Summer: $110.00
  - One day only permit: $6.00 per day

Student Judicial Affairs Fees

- Administrative Fees (Finding of Responsibility/Informal Warning):
  - Agreement reached during Fact Finding: $25.00
  - Agreement reached during Hearing Board (HB) Process: $50.00

- Workshop Referrals:
  - Discussing Our Choices Workshop: $50.00

- Disciplinary Fines:
  - Substance Abuse Violations:
    - Alcohol use/possession/distribution:
      - First offense: $50.00
      - Second offense: $75.00
      - Third (+) offense: $125.00
  - Drug/controlled substance use/possession:
    - First offense: $75.00
    - Second offense: $125.00
    - Third (+) offense: $250.00

- Serious Violations of the Code of Student Conduct:
  - Violent/threatening behavior: $160.00
  - Theft: $150.00
  - Weapons: $200.00
  - Drug sales/distribution - first offense: $150.00
  - Drug sales/distribution - second offense: $300.00

*Restitution for lost/stolen/damaged while in possession (max) is cost plus 20%
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.

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 Federal Student Aid Programs. 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](http://www.fafsa.ed.gov). Inquiries may be directed to the Office of Student Financial Aid, Simmons Hall, 330-972-7032 or 1-800-621-3847.

Payment Plan

A payment plan option is available to help those students who cannot pay full charges for tuition, on-campus housing, and/or the meal plan at the start of the semesters. Under the payment plan students agree to pay tuition and fees in installments over the semester. A down payment is required to start.

Three options are available to sign up for the payment plan:

- Sign onto ZipLine > Access my...Finances > Sign up for Payment Plan
- Visit the Office of Student Accounts in Simmons Hall, Room 106
- Sign up by mail: University of Akron, Office of the Cashier, P.O. Box 2260, Akron, Ohio 44309-2260. Enclose a signed Installment Payment Plan application along with the required down payment. Make sure the information is received by the Office of Student Accounts on or before the due date.

To enroll in the Payment Plan full-time students pay a down payment of $1,000 and part-time students pay a down payment of $500. Financial aid can be used to pay for a portion or all of the required down payment. A $30 application fee is charged for the Payment Plan. The fee will be part of the first installment. The Payment Plan covers only one term. Each time a student wishes to use the Installment Payment Plan he or she must re-enroll. The deadlines to enroll can be found at [http://www.uakron.edu/studentfin/billing.php](http://www.uakron.edu/studentfin/billing.php) or by selecting the term of interest. Students enrolling the Installment Payment Plan for the fall or spring semesters will make three installments over the term. During the summer session there are two installments.

Questions concerning the Payment Plan can be directed to (330) 972-5100.

Graduate Assistantships

Graduate assistantships may be available through various graduate degree-granting academic units. Graduate assistantships and other graduate awards are distributed to the colleges through the Graduate School; therefore, a student interested in a graduate assistantship should contact the appropriate academic department.

International Students

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

Regulations Regarding Refunds

All fees 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. Students are advised to consult the website of the Office of Student Accounts/Bursar and this bulletin for tuition and fees. 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

- Ohio resident tuition and nonresident surcharge
- General service fee
- Facilities fee
- Technology fee
- Course materials fee
- Transportation fee (only if permit is returned)
- Library fee
- Residence hall fees (note: subject to special policy)
- Meal plans (note: subject to special policy)
- Administrative fee (note: only with complete withdrawal)
- Career advantage fee
- Developmental programs support fee
- Engineering infrastructure fee

Amount of Refund

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

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

- all refund calculations are determined by class length percentage, not by class meetings completed or class meeting percentage. Class length is defined as the number of days between and including the beginning and ending dates of any given term/session (including weekend days and holidays). The standard fifteen-week fall/spring/summer semester percentages which apply are:
  - If 6.667% of class completed 100%
  - If 13.333% of class completed 70%
  - If 20% of class completed 50%
  - If 26.667% of class completed 30%
  - If 33.333% of class completed 20%
  - Greater than 33.333% of class completed 0%

Refunds for course sections which have not been scheduled consistent with the standard fifteen-week fall/spring/summer semester scheduling pattern will also be calculated on a pro rata 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. 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 official withdrawal earlier, in which case the refund will be determined as of the date 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. Depending on the date of the withdrawal and the refund due, if any, a balance may still be owed on an installment payment plan contract.

No refund will be granted to a student dismissed or suspended for disciplinary reasons.

The University reserves the right to cancel a course for insufficient enrollment.

Amount of Refund - Noncredit Courses

If a noncredit course is canceled by The University of Akron, a full refund will be issued. Withdrawal requests received up to three business days prior to the first class meeting will result in a full refund, less a $15 processing charge, or an opportunity to transfer to another course. Thereafter, withdrawal requests received up to the beginning of the second class meeting will receive a 50 percent refund. No refunds are issued after the start of the second day of classes.

Refunds for noncredit courses are determined by the date the withdrawal request is received. The refund period cannot be extended if the student fails to attend the first class. Charge cards and refund checks will be processed promptly. Parking permits must be returned to the Workforce Development and Continuing Education Office to receive a refund.

The University reserves the right to cancel a course for insufficient enrollment.

Payment of Tuition and Fees/Withdrawal

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

MASTER’S DEGREE REQUIREMENTS

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

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

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

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

Credits
A minimum of 30 semester credits of graduate work is required in all master’s degree programs. This includes thesis credit. Some departments require more (see departmental requirements). A minimum of two-thirds of the total graduate credits required in any master’s program must be completed at the University. A maximum of six workshop credits may be applied to a master’s degree. Such credits must be relevant to the degree program, recommended by the student’s advisor and approved by the dean of the Graduate School.

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

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

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

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

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

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

Advancement to Candidacy
A student should apply for advancement to candidacy after completion of one-half of the credits required for the degree in his or her program 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/current-students/cumforms.dot, 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/graduation 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/current-students/gdfthesdiss.dot.

DOCTORAL DEGREE REQUIREMENTS*

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

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

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

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

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

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

* The doctoral program in engineering is an interdisciplinary program offered on a collegiate basis. In the descriptions of University doctoral degree requirements on the following pages, citations of department or departmental faculty should be interpreted as citations of college or collegiate faculty with specific reference to the doctoral program in engineering.

February 15 for Summer Commencement
- September 15 for Spring Commencement
- May 15 for Fall Commencement
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 with advanced standing 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 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 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 institution's degree. A block transfer of credit does not apply toward the student's ten-year time limit to complete the degree.

Language Requirements*

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

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

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

- **Plan C**: In certain doctoral programs (counseling and guidance, elementary education, engineering, psychology, secondary education, urban studies and public affairs) the demonstration of competence in appropriate research skills may serve as a substitute for the foreign language 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/current-students/cumforms.dot 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/current-students/gdl-ntheadsiss.dot 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

Chand Midha, Ph.D., Interim Dean
Charles B. Monroe, Ph.D., Associate Dean
Richard W. Stratton, Ph.D., Acting Assistant Dean
John F. Zipp, Ph.D., Interim 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 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 (315000PHD)

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.
- Complete a course of study designed in consultation with an advisor or advisory committee which they would be interested in having as their faculty advisor(s).
- Complete all general requirements for the doctoral of philosophy degree.

Admission Requirements

In addition to submission of the graduate application and official transcripts applicants must submit three letters of recommendation and a statement of purpose.

Application materials should be submitted by June 1 for fall enrollment and by November 15 for spring enrollment.

Interdisciplinary Option in Chemical Physics

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

Admission Requirements

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

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

Degree Requirements

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

- Complete a course of study designed 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, oral exam, and seminar;
- Defend 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 (310001PHD)

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 an interdisciplinary 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 incorporate approaches 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).
Applications 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:

- Academic background as evidenced by grade point average of at least 3.0
- GRE scores
- Letters of recommendation (three preferred)
- Willingness of one or more potential advisors to take student on as an advisee

Applications are accepted on a rolling basis. Review of applications begins in mid-January for fall enrollment.

**Doctor of Philosophy in Counseling Psychology**

(376000PHD)

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](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 yearlong, full-time internship in an applied service setting. Pertinent information regarding the emphasis, orientation, and coursework for the Psychology Department entry point is included below. Students receive exposure to both colleges through shared coursework and faculty involvement with exams and dissertations. The Department of Psychology offers a five-year Counseling Psychology program leading to a doctoral degree and, in general, is geared toward students who hold a B.A. in psychology with cumulative undergraduate grade point average of 3.0 or above and a grade point average of 3.25 or above on all psychology coursework. Program emphasis is strongly placed on a scientist-practitioner model of training. Beyond the basic core areas of psychology, students are expected to establish specific competencies in the areas of theory, research, and practice of Counseling Psychology. Academic preparation includes theories of psychotherapy, supervision, diversity issues in counseling psychology, vocational psychology, testing theory and practice, research and statistics, and professional issues. Research and publication are greatly encouraged. Graduates typically seek out academic teaching, research and training positions, as well as positions in counseling centers and other mental health agencies.

Admission to the Collaborative Program in Counseling Psychology is handled through the department associated with the student’s chosen entry point. Students must fulfill both Departmental and Graduate School admission requirements. The following application materials must be submitted by the December 1 application deadline:

- Graduate School application
- Brief statement of professional goals and reasons for choosing the field of counseling psychology and The University of Akron
- Official transcripts of all undergraduate and graduate (if applicable) coursework from each institution attended
- Official reports of the GRE General Test and Advanced Psychology Subtest
- Minimum of three letters of recommendation attesting to success in the field and probable academic success at the doctoral level.

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. Credits

- Psychology core courses (630, 620, 630, 640, 650) 10
- Counseling psychology core courses
  - Practicum sequence (672, 673, 675) 8
  - History, measurement, and developmental coursework (718, 727, 750) 8
- Electives (minimum) 6
- Statistics (601, 602) 8
- A statistics sequence that may be substituted for the doctoral language requirement 8
- Thesis credits (minimum) 1
- Dissertation credits (minimum) 12

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

**Doctor of Philosophy in History**

(340000PHD)

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 should not assume that they will automatically be admitted to doctoral studies. In addition to the Graduate School of The University of Akron, the student must submit to the History Department the following materials:
  - a personal statement of reasons for wishing to undertake doctoral study and the fields of study the student wishes to pursue;
  - three letters of recommendation from former professors;
  - a writing sample, preferably a seminar paper or other comparable scholarly work;
  - scores on the Graduate Record Examination, General Aptitude Test;
  - evidence of a reading knowledge of one foreign language or knowledge of an acceptable cognate field. Those whose native language is not English must demonstrate proficiency in English.

Application materials must be received by February 1 if seeking departmentally-based funding. Applicants not seeking departmentally-based funding must have application materials submitted by June 1.

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

- Complete studies selected by the student in consultation with an advisory committee, including:
  - completion of 60 credits beyond master’s degree requirements, including dissertation credit. Courses at the 500-level in the student’s major and dissertation fields will not be counted toward the degree, and only 9 hours of 500-level courses in the student’s secondary fields will be counted;
  - demonstration of competency in four fields of study selected from the following areas in which the student will be expected to pass written and oral comprehensive exams: ancient, medieval, early modern Europe to 1789, modern Europe since 1750, America to 1877, United States since 1877, Latin America, Far East, Africa, Middle East, South Asia, and History of Science. These four fields must include at least one each in American, European, and non-western history. The student’s dissertation will fall within one of the four chosen fields;
  - satisfactory performance in written and oral comprehensive examinations;
  - defense of the dissertation in an oral examination.
- A reading knowledge of two foreign languages will be required. With the approval of the student’s doctoral committee and the Graduate Committee, the student may substitute a cognate field for one of the two required languages when it seems appropriate for the student’s general program.

- Complete all general requirements for the Doctor of Philosophy degree.

**Doctor of Philosophy in Psychology**

(375002PHD: Industrial Organizational)

(375006PHD: Adult Development and Aging)

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 General Test;
  – securing of three letters of recommendation from persons familiar with applicant's academic work;
  – submission of a brief personal statement of professional goals and reasons for choosing the field of I/O or Adult Development and Aging and The University of Akron;
  – submission of a vita outlining educational and professional experiences.
Application materials must be received by January 15.
• 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 institutional/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 3750:899 Doctoral Dissertation; (minimum 12 credits);
  – satisfactory performance on final examination and defense of dissertation research;
• Other requirements:
  – refer to the department’s graduate student manual for other requirements or guidelines;
  – complete and fulfill general doctoral degree requirements of the Graduate School.
Doctoral language requirements or appropriate alternative research skills and techniques may be prescribed by the student’s advisory committee, depending upon the career plans of the student and upon the academic and/or scientific requirements of the dissertation.
The Psychology departments at The University of Akron and Cleveland State University offer 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
3750:732 Cognition and Aging
3750:738 Psychopharmacology in Adulthood
3750:728 Social Aging

Cleveland State University Courses:

PSY 549 Mental Health and Aging (4)
PSY 561 Learning, Motivation, and Emotion (4)
PSY 653 Health Psychology (4)
PSY 655 Motor and Cognitive Disorders of Aging (4)
PSY 656 Sensation and Motor Functions
PSY 660 Ethical and Legal Issues (4)
PSY 663 Neuropsychology (4)

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 (385000PHD)
The University of Akron and Kent State University departments of sociology offer a joint program leading to the Ph.D. degree. Faculty and students engaged in the joint doctoral program are for all intents and purposes involved in a single graduate program. Course work is offered at both campuses and faculty and students interchange freely.

Admission to the Program
A student may apply with a completed master’s degree or equivalent or after at least one year of full-time coursework or equivalent (18 credits) in the sociology major 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 235 (computer-based) on the Test of English as a Foreign Language (TOEFL).
Application materials must be received by January 15 for those applicants seeking funding. Applicants not seeking funding must have application materials submitted by March 1.

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 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 (398006PHD)
The Department of Public Administration and Urban Studies offers a program leading to the Ph.D. in Urban Studies and Public Affairs. This is a joint program with Cleveland State University Levin School of Urban Studies. Students admitted to the program may take courses at either campus and all doctoral committees contain members from both universities.

The program is designed to educate scholars interested in university or professional careers in the fields of public administration and urban affairs with particular emphases on public administration, urban policy, and policy analysis and evaluation.

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

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

Application materials must be submitted at least six weeks prior to the term for which enrollment is sought.

For applicants seeking a graduate assistantship, application materials must be submitted by April 1 for fall enrollment and November 15 for spring enrollment.

Degree Requirements

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

Core Requirements (25 credits):

3980:700 Advanced Research Methods I
3980:701 Advanced Research Methods II
3980:705 Economics of Urban Policy
3980:708 Urban Policy: The Historical Perspective
3980:710 Qualitative Research Methods
3980:716 Theoretical Foundations for Public Affairs
3980:240 Survey Research Methods
3980:780 Ph.D. Colloquium
3980:795 Pro-Seminar

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

MASTER’S DEGREES

Programs of advanced study leading to the master’s degree are offered by the departments of biology, chemistry, computer science, economics, English, geography, and plant biology (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

• A minimum grade point average of 3.00 (4.00=A) and 3.00 average in Biology (minimum 32 semester hours or equivalent)
• Competence in Chemistry and Mathematics is expected
• Entering students must provide scores from any one or more of the following standardized tests: General GRE, Biology-specific GRE, or MCAT. Students are expected to score above the 25th percentile to be competitive for admission (provisional or full). Full admission is required for a teaching assistantship or tuition waiver.
• A letter of interest indicating the proposed area of specialization and possible advisors in the Biology department is required
• Foreign students, in addition to the above requirements, must have a score of 220 or more on the TOEFL, and one of the following: a) >=23 on the “S” portion of the TOEFL, b) >=50 on the Test of Spoken English (TSE), or c) a passing score on the U-Adopt test

Applications are accepted on a rolling basis. Review begins in January/February for fall enrollment.

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 for students who do not need research experience. It is designed for those applicants with a B.S. or equivalent undergraduate degree. The program is open only to applicants possessing a teaching certificate or those co-enrolling 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

(315000MS)

Master of Science

Admission Requirements

In addition to submission of the graduate application and official transcripts applicants must submit three letters of recommendation and a statement of purpose. Application materials are due by June 1 for fall enrollment and by November 15 for spring enrollment.

Degree Requirements

• 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

(346000MS)

(346001MS: Thesis Option)

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 three 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.

Application materials must be submitted by February 15 for fall and summer enrollment and by October 1 for spring enrollment.

Degree Requirements

The curriculum has been designed to follow the guidelines and recommendations of the Association for Computing Machinery for Master’s Programs in Computer Science. Most full-time degree candidates admitted into the program will complete the degree requirements in two years. The thesis option requires 30 semester hours of graduate work while the nonthesis option requires 39. With prior consent, up to 6 credits of approved graduate-level coursework outside the department may be substituted for elective courses in both the thesis and non-thesis options. The grade point average of all Computer Science courses and pre-approved electives taken at The University of Akron must not be less than 3.0.

• Core Courses (required of all students):
  1. 3460:598 Research Methodology
  2. 3460:535 Analysis of Algorithms or 3460:635 Advanced Algorithms and Complexity Theory
  4. Two courses from Applications: 3460:645, 658, 660, and 676

Note: 689 may be counted for requirement area (3) or (4) upon the approval of the department.

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).

Nonthesis Option (39 credits of graduate work)

39 credits in approved coursework, at least 21 credits of which must be taken at the 600 level.

Cooperative Education Program in Computer Science (346008MS)

Admission Requirements

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 (325000MA)

Admission Requirements

For full admission students require Intermediate Microeconomics, Intermediate Macroeconomics, Calculus I, and Statistics. The academic background of each applicant will be reviewed by the Director of Graduate Studies to determine whether background deficiencies exist for his/her planned program of study. Exceptional departures from these requirements may be approved with the permission of the Director of Graduate Studies and Department Chair. All applicants must submit at least two letters of recommendation (preferably from academics) and a statement of purpose. International applicants must also submit scores from the GRE.

Applications should be submitted at least six weeks prior to the term for which enrollment is sought. Applicants seeking financial support must submit application materials by February 15 for fall enrollment and by November 15 for spring enrollment.

Thesis Option

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

Nonthesis Option

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

Required courses for both options:

3250:602 Macroeconomic Analysis I
3250:611 Microeconomic Theory I
3250:620 Applications of Mathematical Models to Economics
3250:626 Statistics for Econometrics
3250:627 Econometrics

Courses taken outside the department must be approved (in writing) by the student’s advisor prior to enrollment.

English

Master of Arts – Literature Track (330000MA)

Admission Requirements

In addition to the graduate application and official transcripts applicants must submit a statement of purpose. Applications are accepted on a rolling basis.

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

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
(330001MA)

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 Curriculum and Instructional Studies for requirements for state certification to teach in the public schools.

Admission Requirements
In addition to the graduate application and official transcripts applicants must submit a statement of purpose. Applications are accepted on a rolling basis.

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.

Geography and Planning

Master of Arts in Geography
(335010MA: Thesis Option)
(335000MA: Nonthesis Option)

Admission Requirements
In addition to the graduate application and official transcripts applicants must submit two letters of recommendation and a statement of purpose. Applications are accepted on a rolling basis.

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
  - 3350:600, 601 Seminar (6 credits)

- Geography and Planning Electives (24 credit hours)
  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

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

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
  - 3350:600, 601 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 Science in Geography/Geographic Information Sciences
(335010MS: Thesis Option)
(335000MS: Nonthesis Option)

Admission Requirements
In addition to the graduate application and official transcripts applicants must submit two letters of recommendation and a statement of purpose. Applications are accepted on a rolling basis.

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
  - 3350:600, 601 Seminar (6 credits)

- Geotechniques Requirements (9 credits)
  - 3350:505 Geographic Information Systems
  - 3350:540 Cartography
  - 3350:547 Remote Sensing

- Geotechniques Electives (9 credits)
  - 3350:507 Advanced Geographic Information Systems
  - 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

Master of Fine Arts in Creative Writing
(330007MFA)

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. Application materials must be submitted by February 1.

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

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

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
  3350:600, 601 Seminar (6 credits)

• Geotechniques Requirements (9 credits)
  3350:505 Geographic Information Systems
  3350:540 Cartography
  3350:547 Remote Sensing

• Geotechniques Electives (9 credits)
  3350:507 Advanced Geographic Information Systems
  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)

(335011MA: Thesis Option)

(335003MA: Nonthesis Option)

Admission Requirements
In addition to the graduate application and official transcripts applicants must submit two letters of recommendation and a statement of purpose. Applications are accepted on a rolling basis.

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 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

• 3350:685 Planning Internship (3 credits)

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 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

• 3350:685 Planning Internship (3 credits)
History

Master of Arts (340000MA)

Admission Requirements

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 interest, stating the applicant’s reasons for wishing to pursue graduate work and the fields of history which the applicant intends to study;
– scores on the Graduate Record Examination, General Aptitude Test;
– a writing sample, preferably a research paper from a history class;
– three letters of recommendation, preferably from faculty who know the applicant well;
– Applicants whose native language is not English must also score at least 580 on the Test of English as a Spoken Language (TOEFL), at least 240 on the Test of English as a Spoken Language (TSE), and take the Test of Written English (TWE).

Application materials must be received by February 1 if seeking departmentally-based funding. Applicants not seeking departmentally-based funding must have application materials submitted by June 1.

Degree Requirements

– Satisfactory completion of a minimum of 30 credits of graduate study in history, of which only six may be in individual reading.
– Concentrated study of three fields, two of which must be chosen from the following:
  - Ancient
  - Medieval
  - Europe, Renaissance to 1750
  - History of Science
  - Public History

The third field must be chosen from the above history fields or from an approved cognate discipline.

*The Comparative Non-Western History field includes East Asia, South Asia, Middle East, Africa, and Latin America. Students who choose this field as their first, second, or third MA field must focus, through coursework, on two of these four geographical areas (for example, Middle East and Latin America). The comprehensive exam (one for the field as a whole) for a student who takes Comparative Non-Western as their first or second field will incorporate materials from the two geographical regions he or she chose.

– The student must pass written examinations in two of the three fields. The third field requirement will be met by at least seven credits of coursework at the graduate level, completed with a GPA of 3.0.
– 3400:689 Historiography (3 credits)
– 3400:601 Graduate Research Seminar in History (4 credits)
– Twenty-three credit hours of 600-level coursework, at least 16 credits of which must be in seminars. Seminars must be chosen to satisfy one of the following options.

Option I

Three reading seminars, the research seminar, and a thesis read and approved by two faculty members. This option is strongly encouraged for students intending to pursue further academic training in history.

Option II

Three reading seminars, the research seminar, and a research paper read and approved by two faculty members. Students taking this option must enroll in 3400:602 MA Option Paper Completion in the semester they complete their option paper.

Physics

Admission Requirements

In addition to the graduate application and official transcripts applicants must submit three letters of recommendation and a statement of purpose, including a resume. Application materials should be submitted by March 15 for fall enrollment. Applications are accepted on a rolling basis for spring enrollment.

Master of Science (365000MS)

• 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:551</td>
<td>Advanced Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>3650:615</td>
<td>Electromagnetic Theory I</td>
<td>3</td>
</tr>
<tr>
<td>3650:625</td>
<td>Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>3650:641</td>
<td>Lagrangian Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>3650:661</td>
<td>Statistical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>3650:685</td>
<td>Solid-State Physics I</td>
<td>3</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:581:2</td>
<td>Methods of Mathematical Physics I, II</td>
<td>6</td>
</tr>
<tr>
<td>3650:616</td>
<td>Electromagnetic Theory II</td>
<td>3</td>
</tr>
<tr>
<td>3650:626</td>
<td>Quantum Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>3650:652</td>
<td>Advanced Laboratory II</td>
<td>3</td>
</tr>
</tbody>
</table>

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 29.

Students entering the Chemistry Ph.D. program under the auspices of the Physics Department will be expected to have taken some advanced undergraduate chemistry coursework (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 (370000MA)

Admission Requirements

Admission is open to students who have completed a four-year undergraduate degree with a minimum cumulative grade point average of 3.0 and who fulfill the admission requirements of the Graduate School. Three letters of recommendation (at least two 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) or equivalent entrance examination is required. Applications are accepted on a rolling basis.

The Master of Arts in Political Science allows students to focus their study in one of three concentrations: American Institutions, Criminal Justice, or International Studies.

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 24 credits at the 600 level, as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:600</td>
<td>Scope and Theory of Political Science</td>
<td>3</td>
</tr>
<tr>
<td>3700:601</td>
<td>Research Methods in Political Science</td>
<td>3</td>
</tr>
<tr>
<td>3700:602</td>
<td>Foundations of Political Science</td>
<td>3</td>
</tr>
<tr>
<td>3700:603</td>
<td>Scholarly Writing and Professional Development in Political Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Four additional departmental seminars, 12 credits (either independent research, MA seminar, or internship is considered a graduate seminar).

Six additional credits at the graduate level.
Graduate Studies

- Pass a comprehensive written examination covering one concentration: American Institutions, Criminal Justice, or International Studies.
- Complete the following writing requirement:
  An Essay of Distinction is a single, article-length, scholarly research paper. 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 are also required to orally defend their paper to their Faculty Advisory Committee (FAC). All FAC members must approve the topic and pass the paper and oral defense.

**Master of Applied Politics (370005MAP)**

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 Requirements**

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. Applications are accepted on a rolling 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
    3700.695 Internship in Government and Politics* 3
- Three credits required: additional credits will be counted toward elective credit.
- Elective courses - 21 credits (6 credits must be at the 600-level)

Six credits from the following:

3700.540 Survey Research Methods 3
3700.572 Campaign Finance 3
3700.574 Political Opinion, Behavior, and Electoral Politics 3
3700.577 Lobbying 3
3700.695 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**

**Admission Requirements**

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
9200.645 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
3700.695 Internship in Government and Politics 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.

**Psychology**

**Master of Arts (375010MA: Counseling-Thesis Option)**

**(375011MA: Industrial/Organizational-Thesis Option)**

**(375012MA: Psychology-Nonthesis Option)**

**(375013MA: Industrial/Organizational-Nonthesis Option)**

**Admission Requirements**

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

- psychology major or minimally the equivalent of psychology undergraduate minor including a general or introductory course, statistics course, and experimental psychology course;
- GPA of 3.00 in psychology courses;
- Graduate Record Examination Aptitude Test;
- three letters of recommendation.

Application materials must be received by January 15.

**Degree Requirements**

- Course requirements:
  - completion of graduate psychology courses, including the M.A. core courses or equivalents, specialty area required courses, and electives as specified in the department’s graduate student manual;
  - a student is required to maintain at least a 3.0 grade-point average in M.A. content courses as well as overall.
- Other requirements:
  - refer to the Department of Psychology Graduate Student Manual for additional guidelines;
  - complete and fulfill general master’s degree requirements of the Graduate School.

**Thesis Option**

Completion of a minimum number of credits of graduate work, including thesis, as follows: Industrial/Organizational program, 39 credits.

**Nonthesis Option**

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

Master of Arts in Urban Studies (398000MA)
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 Requirements
Admission is open to students who have completed an undergraduate (bachelor’s) degree. No specific field of undergraduate major is required for admission. The GPA requirements for consideration for full admission is an overall bachelor GPA of 2.8 or greater, or 3.05 for the last 60 credit hours. Provisional admission may be granted for those with an overall GPA between 2.5 and 2.79. Additionally, applicants must submit the following:

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

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

Applications are accepted on a rolling basis. For those students seeking a graduate assistantship application materials must be received by July 1 for fall enrollment, November 15 for spring enrollment, and April 1 for summer enrollment.

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)
3980:600 Basic Quantitative Research 3
3980:601 Advanced Research and Statistical Methods 3
3980:615 Public Organization Theory 3
3980:643 Introduction to Public Policy 3
3980:671 Program Evaluation in Urban Studies 3
3980:675 Advanced Techniques in Policy Analysis 3

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) (398005MPA)
The Master of Public Administration (MPA) program has been accredited by the National Association of Schools of Public Affairs and Administration (NASPAA) through the 2010-2011 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 Requirements
Admission is open to students who have completed an undergraduate (bachelor’s) degree. No specific field of undergraduate major is required for admission. The GPA requirements for consideration for full admission is an overall bachelor GPA of 2.8 or greater or 3.05 for the last 60 credit hours. Provisional admission may be granted for those with an overall GPA between 2.5 and 2.79. Additionally, applicants must submit the following:

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

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

Applications are accepted on a rolling basis. For those students seeking a graduate assistantship application materials must be received by July 1 for fall enrollment, November 15 for spring enrollment, and April 1 for summer enrollment.

Degree Requirements
Satisfactory completion of a minimum of 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):

3980:600 Basic Quantitative Research 3
3980:601 Advanced Research and Statistical Methods 3
3980:610 Legal Foundations of Public Administration 3
3980:611 Introduction to the Profession of Public Administration 3
3980:614 Ethics and Public Service (capstone class) 3
3980:615 Public Organization Theory 3
3980:616 Personnel Management in the Public Sector 3
3980:640 Fiscal Analysis 3
3980:642 Public Budgeting 3
3980:643 Introduction to Public Policy 3
3980:695 Internship 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./MPA. To be accepted into the program, a student must meet the admission requirement of the School of Law, the Graduate School, and the Department of Public Administration and Urban Studies.

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

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

This program reduces the total existing credit hours of the School of Law and Public Administration by nine credit hours (from 85 to 76), while public administration requirements are reduced by 12 credit hours (from 42 to 30).

Public Health (311500MPH)
The Consortium of Eastern Ohio Master of Public Health (CEOMPH) program is a partnership between The University of Akron, Cleveland State University, Northeastern Ohio Universities College of Medicine and Pharmacy, Ohio University, and Youngstown State University. This nontraditional program is geared toward the working professional who would like to broaden his or her role in improving community health, enhance current job skills, or seek career advancement. Students are encouraged to move through the program as a cohort with core courses being taught on Saturday by interactive videoconferencing from one of our distance learning sites. Unique features of this program include the use of distance learning for the six core courses, including interactive videoconferencing and web-enhanced teaching. Elective courses may be taken at any of the partner universities. Core courses are taught on Saturday to accommodate working students. CEOMPH is accredited by the Council on Education and Public Health.

Mission Statement
The mission of the Consortium of Eastern Ohio Master of Public Health program is to provide accredited public health education designed for the working professional. It does this through a collaborative learning community, drawing on the collective resources of its five member institutions and partnering community agencies. The program strives to produce respected and competent professionals able to improve public health practice, especially in eastern Ohio.

Values
• Improving, preserving, and enhancing the health and well-being of the entire community.
• Engaging in collaborative behavior that models as well as educates.
• Achieving student excellence, including leadership, accountability, and ethical behavior.
• Protecting the environment, recognizing and reducing environmental health risks, and using resources prudently in our personal and professional lives.
• Promoting diversity in the public health workforce.
• Demonstrating cultural competence.
• Commitment to lifelong learning.

Goals
• Provide graduates with a foundation of public health skills and knowledge, including community assessment methods, analytic skills, research strategies, program implementation, evaluation, and policy development within an ethical and culturally sensitive perspective.
• Provide an MPH program that produces competent practitioners through collaboration among academicians, researchers, public health practitioners, and students from each member institution and the eastern Ohio community.
• Provide students with the knowledge and opportunities to apply public health concepts and skills to assess and improve the health status of residents of Ohio through research and service.
• Foster ongoing professional development of faculty and students and public health practitioners for the advancement of practice in the community.
• Assure at least an annual evaluation of overall program activity so that it continues to meet the needs of both students and the eastern Ohio community and is based on the most current concepts and skills in public health research and practice.

Admission
All application materials must be sent to Consortium of Eastern Ohio Master of Public Health office, 4209 State Route 44, PO. Box 95, Rootstown, Ohio 44272-0095.

Students must meet the following admission requirements:
• Submit completed application by January 15 of the year student is seeking to enter in the fall
• Possess a bachelor’s degree from an accredited college or university
• Provide official academic records from each institution of higher education attended. If the official record is not in English, an official translation must accompany the original language document.
• Minimum undergraduate GPA of 2.75 and minimum graduate GPA of 3.0 out of a 4.0 scale
• Three letters of recommendation from individuals familiar with applicant’s academic or professional background. Individuals who have not been involved in an academic institution for two years or more may submit letters of recommendation by supervisors from his/her place of employment. The letters should include an assessment of current work quality and ability to successfully complete graduate training. Letters should be addressed to the CEOMPH Admissions Committee at the above address.
• A cover letter (no more than two pages) explaining applicant’s educational and professional history; area of interest in public health, interest and motivation for seeking a MPH degree; and professional or academic career plans upon completion of the program.
• Successful completion of a college level mathematics or statistics course and college level social or natural science course.
• GRE scores taken within the last five years (student may be exempt if he/she has a professional or academic master’s or doctoral degree).
• TOEFL scores taken within the last two years from graduates of foreign universities who are non-native English speakers. The minimum score must be 550 (paper-based) or 213 (computer-based) or 79-80 with read/speak/listen=17, write=14 (internet-based)
• Two years of work experience in a relevant field is highly recommended, but not required.
• $45 non-refundable application fee. Students with international credentials must pay a total of $90.
• International students must also complete an INTERNATIONAL STUDENT DOCUMENTATION PACKET and Declaration and Certification of Finances (DCF).

For administrative purposes, students will be enrolled at one of the four universities: UA, CSU, OU, or YSU. If accepted, the Consortium of Eastern Ohio Master of Public Health (CEOMPH) Admissions Committee will assign students an “enrollment university,” based on his/her preference. Questions may be addressed in writing to the above address or applicants may contact the MPH Program office by telephone at (330) 325-6179, fax (330) 325-5907, or e-mail at pubhlth@neoucom.edu. The Program Coordinator at The University of Akron may be reached at (330) 972-2400.

Curriculum
The MPH program contains five core areas basic to public health: social and behavioral sciences, epidemiology, biostatistics, health services administration, and environmental health sciences.

• Core courses:
  3115:601 Public Health Concepts
  3115:603 Social and Behavioral Sciences in Public Health
  3115:604 Epidemiology in Public Health
  3115:605 Biostatistics in Public Health

• Additional program requirements:
  3115:608 Public Health Practice and Issues (required)
  3115:697 Capstone Project (required)

Electives (15-18 credits):
  3115:610 Grant Writing for Public Health Practice (directed elective)
  3115:696 Practicum
  3115:699 Independent Study

A portfolio and exit presentation are also required of each student for graduation.

Sociology
Master of Arts
(385010MA: Thesis Option)
(385011MA: Nonthesis Option)
(385012MA: Research Paper Option)

Admission Requirements
Application materials must be received by January 15 for those applicants seeking funding. Applicants not seeking funding must have application materials submitted by March 1.

Thesis Option
Satisfactory completion of 31 semester credits of which at least 21 must be at the 600 level or higher in sociology (excluding 3850:697, 3850:698 and 3850:699). In meeting these requirements the student must:
• Complete four required core courses with at least a 3.00 grade-point average:
  3850:601 Proseminar in Sociology
  3850:604 Research Design and Methods
  3850:706 Multivariate Techniques in Sociology
  3850:722 Early Sociological Thought
• Complete at least six hours of thesis work (3850:699). No more than six credits will count toward the degree.
• Completion of master’s thesis and successful oral defense of thesis.

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

Completion of 31 credits of graduate work with no more than six credits taken at the 500 level. In meeting these requirements the student must:
• Complete three required core courses with at least a 3.00 grade-point average:
  3850:601 Proseminar in Sociology
  3850:604 Research Design and Methods
  3850:722 Early Sociological Thought
• Completion of at least 15 credits in a contracted specialty area. This area must be defined in consultation with the student’s advisor and approved by the Graduate Studies Committee. Courses from other departments may be taken to meet the specialty requirement.
• Pass an oral examination on the specialty area.

Research Paper Option
Satisfactory completion of 31 semester credits of which at least 21 must be at the 600 level or higher in sociology (excluding 3850:697, 3850:698 and 3850:699). In meeting these requirements the student must:
• Complete four required core courses with at least a 3.00 grade-point average:
  3850:601 Proseminar in Sociology
  3850:604 Research Design and Methods
  3850:706 Multivariate Techniques in Sociology
  3850:722 Early Sociological Thought
• Complete at least six hours of Master’s Research Paper work (3850:696). 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
Admission Requirements
In addition to the graduate application three letters of recommendation and a statement of purpose must be submitted. Applicants must have a minimum score of Advanced Low on the Oral Proficiency Interview. Applications are accepted on a rolling basis.
Master of Arts (358000MA)

- 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 (347000MS)

Admission Requirements

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.

Applicants must also submit three letters of recommendation.

- 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, students must take three credits in 3470:689 Advanced Topics in Statistics, 2-4 credits in 3470:699 Master’s Thesis, and 7-9 credits of other approved graduate electives. Upon approval of the thesis by the student’s adviser and reader the thesis must be presented in a colloquium to faculty and students.

Nonthesis requirements (33 credits of graduate work)

In addition to the core curriculum, students must take three credits in 3470:689 Advanced Topics in Statistics, 2-4 credits in 3470:699 Statistics Masters Paper, and 10-12 other approved elective graduate credit hours must be completed. Upon approval of the Statistics Master’s Paper by the student’s adviser and reader, the paper must be presented in a colloquium to faculty and students. The Statistical Computer Science option requirements may be applied toward the elective courses.

Theoretical and Applied Mathematics

Master of Science – Mathematics (345000MS)

Admission Requirements

In addition to the graduate application and official transcripts applicants must submit three letters of recommendation and a statement of purpose. Applications are accepted on a rolling basis.

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

or

- 3450:621 Real Analysis 3
- 3450:625 Analytic Function Theory 3
- 3450:636 Advanced Combinatorics and Graph Theory 3
- 3450:692 Seminar in Mathematics 3

- Electives: 8-9 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 three credits in 3450:699 Master’s Thesis must be completed.

Nonthesis Option (minimum of 30 credits)

In addition to the placement review and core requirements, at least eight credits of electives approved by the graduate advisor must be completed. In addition, the student will generate a project or paper to complete the degree.

Master of Science – Applied Mathematics (345001MS)

Admission Requirements

In addition to the graduate application and official transcripts applicants must submit three letters of recommendation and a statement of purpose. Applications are accepted on a rolling basis.

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 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 - 9 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 three credits in 3450:699 Master’s Thesis must be completed.

Nonthesis Option (minimum of 30 credits)

In addition to the placement review and core requirements, at least nine credits of electives approved by the graduate advisor must be completed. In addition, the student will generate a project or paper to complete the degree.

Coordinated Program (415001PHD)

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 42, College of Engineering), shall apply to all applicants for the Engineering Applied Mathematics Program.
BS/MS Program in Mathematics (345010MS)

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor’s degree in either mathematics or applied mathematics as well as a master’s degree in mathematics. Under the supervision of a faculty advisor, a student in the program will finish the core course requirements and most of the electives for the bachelor’s degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor’s degree and 30 credits of graduate work for the master’s degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

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
- 3450:625 Analytic Function Theory 3
- 3450:626 Advanced Combinatorics and Graph Theory 3
- 3450:622 Seminar in Mathematics 3
- 3470:555 Probability 3
- 3470:551 Theoretical Statistics 3
- 3470:561 Applied Statistics I 4
- 3470:651 Probability and Statistics 4
- 3450:699 Master’s Thesis (thesis option) 3

Electives: 8-9 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 (345011MS)

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor’s degree in either mathematics or applied mathematics as well as a master’s degree in applied mathematics. Under the supervision of a faculty advisor, a student in the program will finish the core course requirements and most of the electives for the bachelor’s degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor’s degree and 30 credits of graduate work for the master’s degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

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
- 3450:662 Seminar in Mathematics 3
- 3450:699 Master’s Thesis (Non-thesis option is not available) 3

- At least one course from the following:
  - 3450:626 Analytic Function Theory 3
  - 3450:628 Advanced Numerical Analysis II 3
  - 3450:622 Advanced Partial Differential Equations 3

- At least two courses from the following:
  - 3450:634 Methods of Applied Mathematics II 3
  - 3450:635 Optimization 3
  - 3450:730 Advanced Numerical Solution of Partial Differential Equations 3

- Graduate Electives: 6

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

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 (OAI).

DOCTOR OF PHILOSOPHY IN ENGINEERING DEGREE

The Doctor of Philosophy in Engineering is an interdisciplinary doctoral program offered on a collegiate basis; however, when making application a student must indicate a primary discipline (420000PHD Chemical Engineering; 430000PHD Civil Engineering; 440000PHD Electrical Engineering; 445000PHD Computer Engineering; 460000PHD Mechanical Engineering; or 480000PHD Biomedical Engineering).

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, three letters of recommendation, and official results of the verbal, quantitative, and analytical portions of the GRE. A statement of purpose should also be submitted. 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.
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 curvatures of structures and various materials, mechanics of solids, fluids, solids, and composite materials.

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

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

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

Biomedical Engineering studies the theoretical and experimental application of engineering principles to biomedical problems. Some typical areas of interest are signal and image processing, biomechanics, and biomaterials.

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

Engineering Applied Mathematics applies advanced mathematics to technologically significant engineering problems.

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

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

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

COORDINATED AND JOINT PROGRAMS

Coordinated Engineering Applied Mathematics program for the Doctor of Philosophy in Engineering degree between the College of Engineering and the Department of Theoretical and Applied Mathematics (415001PHD)

Admission Requirements

Applicants for the Engineering Applied Mathematics Program must have their graduate application and credentials evaluated by the College of Engineering Dean’s Office and the applied mathematics division of the Department of Theoretical and Applied Mathematics. The Admission Requirements for the Doctor of Philosophy in Engineering, as given in the Graduate Bulletin, shall apply to all applicants for the Engineering Applied Mathematics Program. Applications to the Engineering-Applied Mathematics Program are accepted on a rolling basis.

Degree Requirements

The applicable Degree Requirements for the Engineering Applied Mathematics Program are those given in the Graduate Bulletin under the Section Doctor of Philosophy in Engineering. These degree requirements include passing a Qualifying Examination, identifying a Dissertation Director, establishing an Interdisciplinary Doctoral Committee, completing a formal Plan of Study, satisfying the University’s language and residency requirement, passing a Candidacy Examination, presenting an acceptable Dissertation Proposal, writing a dissertation, and publicly suc-
cessfully (no “fail” votes) defending the dissertation before the Interdisciplinary Doctoral Committee. Students in the Engineering Applied Mathematics Program must pass a departmental Qualifying Examination composed and administered by the participating faculty from the applied mathematics division of the Department of Theoretical and Applied Mathematics and the participating faculty from one of the five departments in the College of Engineering.

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

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

Students participating in the Engineering Applied Mathematics Program must have at least 50 percent of minimum coursework from the Department of Theoretical and Applied Mathematics.

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

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

Admission Requirements

When an engineering graduate student at Youngstown State University declares an interest in the joint doctoral program, the student shall prepare a letter of intent, with academic credentials, to the dean of engineering at Youngstown State University. The dean of engineering at Youngstown State University shall forward the letter of intent and academic credentials, together with a recommendation, to the dean of engineering at The University of Akron. The dean of engineering at The University of Akron shall have the graduate faculty in the applicant’s discipline evaluate the academic credentials and make a recommendation on the academic acceptability of the applicant. If the recommendation is favorable, the student shall be advised to apply to the Graduate School at The University of Akron for formal admission to the Doctoral Program in the College of Engineering at The University of Akron. The dean of Graduate Studies and Research at Youngstown State University shall be kept informed of the progress of the admission procedure. The applicant from Youngstown State University must satisfy the Admission Requirements for the Doctor of Philosophy in Engineering at The University of Akron.

Degree Requirements

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

One of the members of the Interdisciplinary Doctoral Committee for the joint doctoral program candidate shall be an engineering faculty member from Youngstown State University and normally would be the student’s dissertation director, although this is not necessary. The faculty member from Youngstown State University shall have adjunct status at The University of Akron and qualify for Category II graduate faculty membership.

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

Joint program for the M.D. and Ph.D. in Engineering degree between the College of Engineering at The University of Akron and the Northeastern Ohio Universities College of Medicine (415002PHD)

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

Admission Requirements

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

- M.D. Principles of Chemistry I and II
- M.D. Organic Chemistry I and II
- M.D. Principles of Biology I and II
- M.D., Ph. D. Classical Physics I and II
- Ph.D. Statics
- Ph.D. Dynamics
- Ph.D. Strength of Materials or Material Science
- Ph.D. Basic Electrical Engineering or Circuits I & III
- Ph.D. Calculus I, II, III, and Differential Equations

Degree Requirements

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

MASTER OF SCIENCE DEGREES

The degrees of Master in 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, three letters of recommendation, and official results of the verbal, quantitative, and analytical portions of the GRE. A statement of purpose should 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 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 degree 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 (420000MS)

Applicants with a bachelor’s degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of classical physics, and must complete:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>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>
**Students without BS in Chemical Engineering are required to take 4200:535, 4200:541.**

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.

**Thesis Option**
- 4200:600 Transport Phenomena 3
- 4200:605 Chemical Reaction Engineering 3
- 4200:610 Classical Thermodynamics 3
- Chemical Engineering Electives* 6
- Approved Electives** 6
- Approved Mathematics 3
- Master's Thesis 6
- Total 30

**Nonthesis Option**
- 4200:600 Transport Phenomena 3
- 4200:605 Chemical Reaction Engineering 3
- 4200:610 Classical Thermodynamics 3
- 4200:617 Chemical Engineering Report 3
- Chemical Engineering Electives* 6
- Approved Electives** 15
- Approved Mathematics 3
- Total 36

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

**Five Year BS/MS Chemical Engineering Program (420001MS)**

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 (430000MS)**

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 Name</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>4600:310</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>Materials Science</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**
- Civil Engineering Courses 15
- Approved Mathematics or Science 3
- Approved Electives 6
- Master's Thesis 6
- Total 30

**Nonthesis Option**
- Civil Engineering Courses 15
- Approved Mathematics or Sciences 3
- Approved Electives 12
- Engineering Report 2
- Total 32

**Master of Science in Electrical Engineering (440000MS)**

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 Name</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>4400:463</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>

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

**Thesis Option**
- Electrical Engineering Courses** 15
- Approved Mathematics 6
- Approved Electives 3
- Master's Thesis 6
- Total 30

**Nonthesis Option**
- Electrical Engineering Courses** 18
- Approved Mathematics 6
- Approved Electives 9
- Total 33

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

**Master of Science in Mechanical Engineering (460000MS)**

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 Name</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>Total</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**
- Mechanical Engineering Courses* 15
- Approved Mathematics 3
- Approved Electives 6
- Master's Thesis 6
- Total 30

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

**Master of Science in Engineering**

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

**Admission**

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.
### College of Education

**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 Services Advising Office, (330) 972-8970 or (330) 972-7750.

### Doctor of Philosophy Degree

Four Doctor of Philosophy degrees are offered through the College of Education. Two degrees are offered, the Ph.D. in Elementary Education and the Ph.D. in Secondary Education, in the Department of Curricular and Instructional Studies, and two degrees are offered, the collaborative Ph.D. in Counseling Psychology and the Ph.D. in Counselor Education and Supervision, in the Department of Counseling.

The degrees will be awarded to the student who fulfills the general requirements of the Graduate School and passes the general and specific requirements of the Doctor of Philosophy degree program.

### Doctorate in Education Degree

A Doctorate in Education degree is offered through the College of Education, Department of Educational Foundations and Leadership. The Ed.D. degree will be awarded to the student who fulfills the general requirements of the Graduate School and passes the general and specific requirements of the Doctorate in Educational Leadership degree program.

### 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 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.

### 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.

---

**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>Total</td>
<td>30</td>
</tr>
</tbody>
</table>

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

**Nonthesis Option**

<table>
<thead>
<tr>
<th>Course 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>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

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

**Biomedical Engineering Specialization**

(480000MSE)

<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>3100:696</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>Total</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

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

**Polymer Engineering Specialization**

(410003MSE)

<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 Selective</td>
<td>3</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

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

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

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

### Engineering Management Specialization

(410001MSE)

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

**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></td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance</td>
<td></td>
</tr>
<tr>
<td>6500:600</td>
<td>Management and Organizational Behavior</td>
<td></td>
</tr>
<tr>
<td>6600:600</td>
<td>Marketing Concepts</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>Choose three credits of 600 level College of Business Administration courses.</td>
<td></td>
</tr>
</tbody>
</table>

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**Sajit Zachariah, Ed.D., Associate Dean for Administration and Strategic Initiatives**

**Evonn N. Welton, Ph.D., Assistant Dean for Student Services**

### ENGR GrADUATE & CERTIFICATE PROGRAMS

The College of Engineering offers graduate certificate programs in addition to master’s and doctoral degree programs. Certificates in Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation Engineering, and Motion and Control Specialization are available. Descriptions of these and all graduate certificate programs can be found on page 85 of this bulletin under Interdisciplinary and Certificate Programs of Study.
Doctoral Programs in the Department of Curricular and Instructional Studies

Doctor of Philosophy in Elementary Education (520000PHD)
Doctor of Philosophy in Secondary Education (530000PHD)

The Doctor of Philosophy degree in Elementary Education and the Doctor of Philosophy in Secondary Education 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. Professional Education in Curricular and Instructional Studies
2. Foundation Studies
3. Area of Specialization

Listed below and of particular significance are the five sequential steps necessary for participation in the doctoral program:

1. Successful Completion of Admission Requirements (see below)
2. Completion of the Program Course Distribution Plan with Major Adviser
3. Completion of the Program Coursework (see course requirements below)
4. 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.
5. Successful Completion of Dissertation
a. Select Dissertation Chair and Committee
b. The dissertation proposal must receive approval of the Dissertation Committee prior to advancement to candidacy.
c. The candidate's dissertation chair must be from the Department of Curricular and Instructional Studies and have Category II graduate faculty status.

Admission Requirements
Admission to the Curricular and Instructional Studies Ph.D. program is limited to a select number of students each year. Admission deadlines are March 1 for fall admission and October 1 for spring admission. 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 3.5 GPA on a scale of 4.0).
3. Completion of application to Graduate School that includes:
   a. Letter of Intent/Statement of Purpose. The Letter of Intent/Statement of Purpose should indicate career goals and research interest and must be compatible with departmental resources and goals.
   b. Agreement to Advise form. Candidates are responsible for obtaining faculty sponsors to complete Agreement to Advise form.
   c. Current vita
   d. Three letters of academic reference
   e. Official transcripts
4. Demonstration of doctoral level writing ability as evidenced by a Miller Analogies Test score of 339 or higher (550 on the verbal portion of the GRE). Scores more than five years old will not be accepted for evaluation of the doctoral application.
5. Controlled departmental writing sample assignment. This requirement will be administered after the March 1 and October 1 admission deadlines. Consult the Department of Curricular and Instructional Studies Office for specific writing sample dates.

6. 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. 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. The opportunity to interview is no guarantee of admission.

7. In certain cases an applicant may be required to take coursework on the graduate level at The University of Akron before a final decision on his/her application for admission is made.
8. Candidates must have at least three years of teaching experience. (This does not apply to postsecondary/technical education area candidates.)

Note: 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.

Degree Requirements
The degree will be awarded to the student who, in addition to fulfilling the general requirements of the Graduate School, has met the following specific requirements:

• Completion of all departmental admission requirements
• Completion of a minimum 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.
• Completion of a test in a language judged not to be the student's native tongue and excluding English. (See section on Additional Research Competency)
• Completion of six credits in a cognate area.
• Completion of a comprehensive written and oral examination.
• Completion of a dissertation comprising not more than 20 credits. Credits beyond the 20 hours may not be applied to the degree. The oral examining committee must be constituted of at least five full-time graduate faculty members, one of whom must be from outside the college.
• Pass the general requirements for the Doctor of Philosophy degree.

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

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

b. Statistics/Research Methods
   Students will successfully complete a minimum of 9 hours of additional advanced statistical/research methods courses approved by student's advisor.

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

Curricular and Instructional Studies Ph.D. Course Requirements
Curricular and Instructional Studies Core (15)
5500:600 Concepts of Curriculum and Instruction (or 5400:xxx) 3
5500:605 Seminar in Trends and Issues in Curriculum and Instruction (or 5400:xxx) 3
5500:800 Professional Doctoral Seminar in Curricular and Instructional Studies 3
5500:880 Seminar in Curricular and Instructional Studies 3
Three additional hours will be selected in the area of Curricular and Instructional Studies with advisor approval.

Social-Philosophical Foundations (15)
5100:600 Philosophy 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

The University of Akron 2010-2011
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: Exploratory/Qualitative 3
5100:801 Seminar: Empirical or Seminar II: Ethnographic/Historical or Case Study Research or Legal Research and Writing or another advisor-approved course

Area of Specialization: 18 credit hours
Cognate Area Outside of Education: 6 credit hours
Dissertation: 20 credit hours
Total Program: 92 credit hours

Additional coursework taken to develop a competency area may not be applied to the total number of hours required in the Ph.D. program.

Doctoral Programs in Counseling

Collaborative Ph.D. Program in Counseling Psychology (565000PHD)
The Collaborative Program in Counseling Psychology allows students to choose areas of specialization in psychology, school psychology, or a related field. Students may also enter the Counseling Department of the College of Education. Adequate preparation in psychology and education is required of all students and applicants must also complete the GRE Psychology Subject Test and have these results reported to the Counseling Psychology program.

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.
- All application materials must be received by the department by December 1.

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

Required Courses
- 5100:648 Individual and Family Life-Span Development 3
- 5100:742 Advanced Educational Statistics 3
- 5600:651 Techniques of Counseling 3
- 5600:675/676 Practicum in Counseling I/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
- 5600:707 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
- 5600:713 Principles and Practice of Intelligence Testing 4
- 5600:715 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
- 3750:6500 Required Electives 8
- 5600:899 Doctoral Dissertation (minimum) 15
- Language Requirement 8
- Minimum Total Credit Hours Required 114

Students register for dual listed courses (3750/5600) 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 (560000PHD: Counselor Education and Supervision) (560009PHD: Marriage and Family Counseling/Therapy)
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 (CES), and (b) Marriage and Family Counseling/Therapy (MFC/T). 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. The complete 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 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.

Required Courses
- 5100:648 Individual and Family Life-Span Development 3
- 5100:742 Advanced Educational Statistics 3
- 5600:651 Techniques of Counseling 3
- 5600:675/676 Practicum in Counseling I/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
- 5600:707 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
- 5600:713 Principles and Practice of Intelligence Testing 4
- 5600:715 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
- 3750:6500 Required Electives 8
- 5600:899 Doctoral Dissertation (minimum) 15
- Language Requirement 8
- Minimum Total Credit Hours Required 114

Students register for dual listed courses (3750/5600) 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.

Graduate Studies

Admission Requirements
- Graduate School Application
- Official undergraduate and graduate transcripts
- Official GRE score report
- Three letters of recommendation
• Department of Counseling Application Supplement Form
• Professional resume

All application materials are due in the Department of Counseling no later than January 15. Doctoral students are only admitted one time per year, beginning each fall semester.

Ph.D. in Counselor Education and Supervision Requirements:

Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:705</td>
<td>Social-Philosophical Foundations</td>
<td>3</td>
</tr>
<tr>
<td>5100:635</td>
<td>Emerging Technologies for Instruction</td>
<td>3</td>
</tr>
<tr>
<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:743</td>
<td>Advanced Educational Statistics</td>
<td>3</td>
</tr>
<tr>
<td>5600:715</td>
<td>Research Design in Counseling I</td>
<td>3</td>
</tr>
<tr>
<td>5600:716</td>
<td>Research Design in Counseling II</td>
<td>3</td>
</tr>
</tbody>
</table>

*(The following may not be taken until all entry-level requirements are completed)*

- 5600:702 Advanced Counseling Practicum 12
- 5600:669 System Theory in Family Therapy 3
- 5600:725 Doctoral Professional Seminar in Counselor Education 3
- 5600:730 Topical Seminar: Use of Assessment Data 4
- 5600:737 Clinical Supervision I 4
- 5600:738 Clinical Supervision II 4
- XXXX Cognates 6-10

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
- 5600:661 Marital 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 4
- 5600:640 Techniques of Research 4
- 5600:646 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

- 5600:676 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 (570000EDD)

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)
- Official transcripts: undergraduate, masters, certificate/licensure programs, and any previous doctoral study
- 3.25 GPA - masters
- Current curriculum vitae/resume
- Three letters of reference addressing the applicant’s organizational, research, and communication skills

Application materials must be submitted by March 1 for fall admission and October 15 for spring admission.

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

- Structured interview
- Proctored writing sample

Program Requirements

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

- 5100:701 Research Seminar: Empirical Studies 3
- 5100:707 Seminar: Social-Philosophical Foundations of Education 3
- 5100:710 Adult Learning, Development and Motivation 3
- 5100:721 Learning Processes 3

Research (22)

- 5100:789 Doctoral Dissertation (student must take at least 10 semester dissertation hours but may count up to 20 toward the degree)

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:

- 5100:740 Research Seminar: Legal Research and Writing 3
- 5100:741 Data Collection Methods 3
- 5100:742 Statistics in Education 3
- 5100:743 Advanced Educational Statistics 3
- 5100:801 Research Seminar: Exploratory/Qualitative 3
- 5100:801 Research Seminar: Exploratory/Historical 3
- 5100:801 Research Seminar: Case Study Research 3
- 5100:801 Research Seminar: Legal Research and Writing 3
- 5100:801 Research Seminar: Empirical Studies 3

Educational Administration (35)

- 5100:704 Advanced Study in Educational Leadership 3
- 5100:705 Decision Making in Educational Leadership 3
- 5100:708 Economics in Education 3
- 5100:716 Advanced Evaluation of Educational Organizations 3
- 5100:730 Residency Seminar 3
- 5100:732 Public and Media Relations in Educational Organizations 3
- 5100:745 Seminar: Urban Educational Issues 3
- 5100:746 Politics of Education 3
- 5100:710 Advanced Educational Law 3
- 5100:720 Topical Seminar (two enrollments of three credits each) 6
- 5100:795 Doctoral Internship 5

Cognate (12)

(Must be graduate level coursework outside the field of education. Advisor approval required)

General Electives (9)

Total Program: 90

M A S T E R S DEGREE

Programs leading to the degree of M.A. in education and M.S. in education.

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

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

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

- 5100:600 Philosophies of Education 3
- 5100:602 Comparative and International Education 3
- 5100:604 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

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

Admissions to the master’s programs in Classroom Guidance for Teachers, Marriage and Family Counseling/Therapy, and School Counseling will be twice a year (application deadline of March 15 for summer and fall semesters and October 1 for spring semester). Applications to the master’s program in Community Counseling are accepted on a rolling basis until program capacity has been met for the given term.

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 (CAMFT).

**Admission Requirements**

- Graduate School Application
- Official transcripts from institutions attended
- Three letters of recommendation.
- Department of Counseling Application Supplement Form
- Interview will be required for applicants who meet admission criteria

**Classroom Guidance for Teachers (560008MA) (560008MS)**

This course of study leads to an expanded knowledge of how guidance and counseling services benefit students and others in public school settings. Note that numerous areas of concentration are available to students. This is not a licensure program. Any changes in the agreed-upon program must be approved by the student’s advisor.

- **Foundations Courses** (Select one course from each area)
  - Behavioral Foundations
    - 5100:620 Psychology of Instruction for Teaching and Learning 3
    - 5100:624 Seminar: Educational Psychology 3
  - Humanistic Foundations
    - 5100:600 Philosophies of Education 3
    - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - Multicultural Counseling
    - 5600:5100:646 Individual and Family Development Across the Lifespan 3

- **Research**
  - 5100:640 Techniques of Research 3
  - 5100:641 Elementary/Secondary School Counseling 3
  - 5600:647 Career Development and Counseling Across the Lifespan 3
  - 5600:645 Tests and Appraisal in Counseling 4
  - 5600:610 Counseling Skills for Teachers 3
  - 5600:663 Developmental Guidance and Emotional Education 3
  - 5600:695 Field Experience (must be taken before or concurrently with 663) 1
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3
  - 5610:604 Collaboration and Consultation Skills for Special Educators 3

- **Area of concentration**

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

  - Middle School Education
  - Early Childhood Education
  - School and Community Relations
  - Curriculum and Instruction
  - Physical Fitness and Wellness
  - 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 (560005MA) (560005MS)**

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 licen-
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.

Clinical Experience Requirements

- **Area IV: Professional Identity and Ethics**
  - 5600:685 Internship in Counseling (prerequisite: 5600:675) 6
  - Subtotal 6
  - Minimum Department Hours Required 35

- **Specialized Studies (both required)**
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3
  - 5600:621 Counseling Youth At Risk 3
  - Subtotal 6
  - Total Semester Hours Required for Graduation 50

*Must be taken during first or second semester.
**Must sign up with Secretary during first semester of enrollment.
†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.

### Marriage and Family Counseling/Therapy (560009KMA) (560009MS)

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: 5600:655 and 5600:669) 3
  - 5600:668 Multicultural Counseling (Ed foundations) 3
  - 5600:669 Techniques of Counseling (register for MFCT section) 3
  - 5600:675 Practicum in Counseling (prerequisite: 5600:665, 645, 664, 647, 653, 659) 5
  - Subtotal 12

- **Area III: Individual Development and Family Relationships**
  - 5600:648 Individual and Family Development Across the Lifespan (Ed Found) 3
  - 5600:620 Issues in Sexuality for Counselors 3
  - 5600:682 Personality and Abnormal Behavior 3

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

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

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

- **Clinical Experience Requirements**
  - 5600:696 Field Experience (Pre-practicum one hour taken each semester, the two semesters immediately before Practicum 5600:675) 2
  - 5600:675 Practicum in Counseling* (register for MFCT section) 5
  - 5600:685 Internship (Minimum of two semesters immediately following 5600:675, register for MFCT section) 6
  - Minimum Hours for Marriage and Family Therapy Degree Completion 63**

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

### School Psychologist*

(Admissions temporarily suspended)

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

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

- **Program requirements:**
  - 3750:530 Psychological Disorders of Childhood 4
  - 3750:700 Survey of Projective Techniques 4
  - 3750:712 Principles and Practice of Individual Intelligence Testing 4
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:624 Seminar in Human Learning 3
  - 5100:741 Statistics in Education 3
  - 5620:600 Seminar: Role and Function of School Psychology 3
  - 5620:602 Behavioral Assessment 3
  - 5620:610 Educational Diagnosis for the School Psychologist 4

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

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

- **Professional requirements:**
  - 3750:700 Survey of Projective Techniques 4
  - 3750:530 Psychological Disorders of Childhood 4
  - 3750:712 Principles and Practice of Individual Intelligence Testing 4
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3

- **Sixth-Year Requirements:**
  - 5620:694 Research Project in Special Area 2-3
  - 5620:698 Master’s Problem 2-4
  - 5620:699 Master’s Thesis 4-6

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

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

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

- 5620:630 Internship: School Psychology 6
- 5620:631 Internship: School Psychology 3
- 5620:640 Field Seminar I: Professional Topics/Issues in School Psychology 3
- 5620:641 Field Seminar II: Low Incidence/Related Inquiries 3

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

- 5200:630 Elementary School Curriculum and Instruction 2
- 5620:695/696 Field Experience: Master’s 2
- 5700:631 Elementary School Administration 3
- 5170:601 Principles of Educational Administration 3

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

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

**Required as part of Special Education master’s.
Curricular and Instructional Studies

Elementary Education (M.A.) (520000MA)

This program leading to a Master of Arts in Elementary Education is designed for elementary school teachers. Students complete foundations courses in education and in curriculum and instruction, and an area of concentration such as reading, multicultural, middle, or elementary education.

Admission Requirements:

Applicants to this program must hold a valid teaching license. Applications are accepted on a rolling basis.

Degree Requirements:

- Educational Foundations – 9 credits
  5100:600 Philosophies of Education 3
  5100:624 Seminar in Educational Psychology 3
  5100:640 Techniques of Research 3

- Curricular and Instructional – 6 credits
  5500:600 Concepts of Curriculum and Instruction 3
  5500:605 Seminar in Trends and Issues in Curriculum and Instruction 3
  5500:6xx a course that cuts across curriculum and instruction (as approved by advisor)

- Area of Concentration – 15 credits (within curriculum and instruction as approved by the advisor)

- Master’s Project/Thesis Options - 6 credits
  Option 1:
  5500:690 Master’s Research 3
  5500:780 Action Research 3
  Option 2:
  5500:696 Master’s Project (with advisor’s permission) 6
  Option 3:
  5500:699 Master’s Thesis (with advisor’s permission) 6

- 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.

Elementary Education with Literacy Option (M.A.) (520101MA)

This program leading to a Master of Arts in Elementary Education is designed for elementary school teachers. Students complete foundations courses in education and in curriculum and instruction, and an area of concentration such as reading, multicultural, middle, or elementary education.

Admission Requirements:

Applicants to this program must hold a valid teaching license. Submission of an Application for Admission to a Teacher Education Program is required. Contact the College of Education Office of Student Services at (330) 972-7750. Applications are accepted on a rolling basis.

Degree Requirements:

- Educational Foundations – 9 credits:
  5100:600 Philosophies of Education 3
  5100:624 Seminar in Educational Psychology 3
  5100:640 Techniques of Research 3

- Curricular and Instructional Studies – 11 credits:
  5500:605 Seminar in Trends and Issues in Curriculum and Instruction 3
  5500:622 Children’s Literature in the Curriculum 3
  5500:627 Special Topics in Curricular & Instr Studies: Teaching Young Adult Literature 3
  5500:630 Contemporary Issues in Literacy Instruction and Phonics 3
  5500:624 Teaching Reading to Culturally Diverse Learners 3
  5500:627 Special Topics in Curricular and Instructional Studies 3

- Area of Concentration/Reading – 15 credits*:
  5500:622 Children’s Literature in the Curriculum 3
  5500:627 Special Topics in Curricular & Instr Studies: Teaching Young Adult Literature 3
  5500:624 Teaching Reading to Culturally Diverse Learners 3
  5500:627 Special Topics in Curricular and Instructional Studies 3

- Master’s Project/Thesis Options - 6 credits
  Option 1:
  5500:690 Master’s Research 3
  5500:760 Action Research 3
  Option 2:
  5500:696 Master’s Project (with advisor’s permission) 6
  Option 3:
  5500:699 Master’s Thesis (with advisor’s permission) 6

- A comprehensive exam is required
- Minimum credit hours required: 36

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

Elementary Education with Licensure (M.S.) (520207MS)

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.

- Educational Foundations – 10 credits:
  5100:600 Philosophies of Education 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 Psychology of Instruction for Teaching and Learning 3
  5100:642 Topical Seminar in Measurement and Evaluation 3
  5100:695 Field Experience: Master’s (Section 001) 1

- Curricular and Instructional Studies – 11 credits:
  5500:617 Licensure Seminar in Curricular and Instructional Studies 3
  5500:630 Field Experience (Section 001) 1
  5500:657 Instructional Technology Applications 3
  5500:618 Advanced Instructional Techniques 3
  5500:695 Field Experience (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

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

Secondary Education (M.A.) (530000MA)

This program leading to a Master of Arts in Secondary Education is designed for secondary school teachers. Students complete foundations courses in education and in curriculum and instruction, and an area of concentration such as English, mathematics, or secondary education.

Admission Requirements:

Applicants to this program must hold a valid teaching license. Applications are accepted on a rolling basis.

Degree Requirements:

- Educational Foundations – 9 credits:
  5100:600 Philosophies of Education 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3

- Curricular and Instructional – 6 credits:
  5500:600 Concepts of Curriculum and Instruction 3
  5500:605 Seminar in Trends and Issues in Curriculum and Instruction 3
  5500:6xx a course that cuts across curriculum and instruction (as approved by advisor)

- Area of Concentration – 15 credits (within curriculum and instruction as approved by the advisor)

- Master’s Project/Thesis Options - 6 credits
  Option 1:
  5500:690 Master’s Research 3
  5500:760 Action Research 3
  Option 2:
  5500:696 Master’s Project (with advisor’s permission) 6
  Option 3:
  5500:699 Master’s Thesis (with advisor’s permission) 6

- 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.) (530001MA)
This program leading to a Master of Arts in Secondary Education is designed for secondary school teachers. Students complete foundation courses in education and in curriculum and instruction, and an area of concentration in literacy education.

Admission Requirements
Applicants to this program must hold a valid teaching license. Submission of an Application for Admission to a Teacher Education Program is required. Contact the College of Education Office of Student Services at (330) 972-7750. Applications are accepted on a rolling basis.

Degree Requirements
- Educational Foundations – 9 credits:
  5100:600 Philosophies of Education 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3
- Curricular and Instructional Studies – 6 credits:
  5500:600 Concepts of Curriculum and Instruction 3
  5500:625 Contemporary Issues in Literacy Instruction and Phonics 3
- Area of Concentration/Reading – 15 credits*:
  5500:622 Children’s Literature in the Curriculum 3
  or
  5500:627 Specific Topics in Curr & 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 Specific Topics in Curr & Instr Studies 3
  5500:628 Literacy Assessment Practicum 3
  5500:629 Reading Programs in Secondary Schools 3
  5500:620 Advanced Study and Research in Reading Instruction 3
  5500:541 Teaching Language Literacy to Second Language Learners 4
  5500:543 Techniques for Teaching English as a Second Language 4
- Final Research Requirement:
  5500:760 Action Research 3
  or
  5500:690 Master’s Project 3
  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 (10220).

Special Education (M.A.) (561000MAED)
The 30-33 hour graduate program in special education is designed for those individuals who currently hold an undergraduate degree and Intervention Specialist license. The program is divided into three options. The first option (Option I) is for individuals seeking only a Masters in Special Education. The second option (Option II) contains coursework providing focus on Pervasive Developmental Disabilities/Autism. The third option (Option III) provides specific coursework designed to focus on providing educational support in the school setting. Completion of the Master’s of Arts program does not lead to licensure in special education.

Admission Requirements
Applicants to this program must hold a valid teaching license. Applications are accepted on a rolling basis.

Degree Requirements
- Educational Foundations core (9 credits):
  5100:600 Philosophies of Education 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3
- Curricular and Instructional Studies/Special Education core: (15 credits)
  5610:604 Collaboration and Consultation Skills for Special Educators 3
  5610:605 Inclusion Models and Strategies 3
  5610:611 Seminar: Legal Issues in Special Education 3
  5610:612 Seminar: Social/Ethical Issues in Special Education 3
  5610:698 Master’s Problem 3

A comprehensive examination is required.
- Option I: Master’s in Special Education (6 credits)
  5610:601 Seminar in Curriculum Planning 3
  5610:602 Supervision in Special Education 3

Minimum Credit Hours Required 30

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

Minimum Credit Hours Required 33

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

Minimum Credit Hours Required 30

Master of Science in Curriculum and Instruction (M.S.) with Licensure Options
(For those without a teaching credential or those who seek to add Intervention Specialist)
This program is a Master of Science degree, which leads to licensure in a chosen teaching field and is open to highly qualified students who hold a B.A., B.F.A., or B.S. degree. It is designed to give the student concentrated study in one of the licensure areas listed for high school (grades 7-12), multi-age (grades P-12), vocational 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
- Physics
- 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
- Physical Education

Specializations for Vocational (grades 4-12) licensure include:
- Family and Consumer Science/Home Economics
- Intervention Specialist ( Mild/Moderate and Moderate/Intensive) licensure is K-12.

The Early Childhood Intervention Specialist provides licensure for children with disabilities in preschool through grade three. All requirements for licensure must be met. Candidates may need additional subject area coursework to meet ODE licensure requirements, including mandated coursework in reading.

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

College of Education (which must be met by all students):
- Completed teacher education program application
- Competency in reading comprehension, writing, and mathematics as evidenced by an earned bachelor’s degree by an accredited university
- 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/educ/COE/admission.php

Applications are accepted on a rolling basis.

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. Initial teacher preparation programs are aligned with the OhioNTASC (Interstate New Teacher Assessment and Support Consortium) Standards, the Ohio Standards for the Teaching Profession, Professional Association Standards, and the Praxis Pathwise Domains. Advanced Programs for practicing teachers are aligned with the Ohio Standards for the Teaching Profession. For more complete information about the teacher education program please consult the College of Education Office of Student Services at (330) 972-6270.

Program
• Educational Foundations Courses (10 credits):
  All are required unless waived at the time of admission. Foundation courses may not be used as elective or core 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 Licensure (530700MSED)
• Educational Foundations Courses (10 credits)
• Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) (b) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500: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) (9 credits):
    5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
    5500:692 Field Experience: Colloquium (section 031) 1

  • A comprehensive examination is required.

  Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Language Arts Licensure (530701MSED)
• Educational Foundations Courses (10 credits)
• Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) (b) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5500:693 Field Experience: Master’s with Licensure (section 011) 1
  5500:629 Reading Programs in Secondary Schools 3
  5500: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) (9 credits):
    5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
    5500:692 Field Experience: Colloquium (section 031) 1

  • A comprehensive examination is required.

  Minimum credits required for degree: 48

Graduate Studies

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Integrated Mathematics Licensure (530702MSED)
• Educational Foundations Courses (10 credits)
• Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) (b) 3
  5500:521 Field Experience: Advanced Instructional Techniques 2
  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) (9 credits):
    5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
    5500:692 Field Experience: Colloquium (section 031) 1

  • A comprehensive examination is required.

  Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life Sciences Licensure (530610MSED)
• Educational Foundations Courses (10 credits)
• Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) (b) 3
  5500:521 Field Experience: Advanced Instructional Techniques 2
  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 credits):
  5500:550 Nature, History, and Philosophy of Science 3
  3010:595 Field/Lab Studies in Environmental Science 3
  
  Select 3 credits at 500-level or above in teaching field or biology 3

  • Field Experience (Student Teaching) (9 credits):
    5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
    5500:692 Field Experience: Colloquium (section 031) 1

  • A comprehensive examination is required.

  Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life and Earth Sciences Licensure (530506MSED)
• Educational Foundations Courses (10 credits)
• Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) (b) 3
  5500:521 Field Experience: Advanced Instructional Techniques 2
  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) (9 credits):
    5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
    5500:692 Field Experience: Colloquium (section 031) 1

  • A comprehensive examination is required.

  Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life Sciences and Chemistry Licensure (530505MSED)
• Educational Foundations Courses (10 credits)
• Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) (b) 3
  5500:521 Field Experience: Advanced Instructional Techniques 2
  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) (9 credits):
    5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
    5500:692 Field Experience: Colloquium (section 031) 1

  • A comprehensive examination is required.

  Minimum credits required for degree: 48
Chemistry Licensure
Option in Adolescent to Young Adult (AYA) Education (grades 7-12):

Field Experience (Student Teaching) (9 credits):
5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
5500:692 Field Experience: Colloquium (section 031) 1

A comprehensive examination is required.
Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Physical Science (Chemistry and Physics) Licensure (530509MSED)

Educational Foundations Courses (10 credits)
Curricular and Instructional Studies (20 credits):
5500:575 Instructional Technology Applications 3
5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
5500:520 Advanced Instructional Techniques (taken with 5500:521) (b) 3
5500:521 Field Experience: Advanced Instructional Techniques 2
5500:589 Instructional and Management Practices (taken with 5500:603) 3
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.

A comprehensive examination is required.
Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Earth Science Licensure (530611MSED)

Educational Foundations Courses (10 credits)
Curricular and Instructional Studies (20 credits):
5500:575 Instructional Technology Applications 3
5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
5500:520 Advanced Instructional Techniques (taken with 5500:521) (b) 3
5500:521 Field Experience: Advanced Instructional Techniques 2
5500:619 Instructional and Management Practices (taken with 5500:603) 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.

A comprehensive examination is required.
Minimum credits required for degree: 48

Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Earth Science and Chemistry Licensure (530506MSED)

Educational Foundations Courses (10 credits)
Curricular and Instructional Studies (20 credits):
5500:575 Instructional Technology Applications 3
5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
5500:520 Advanced Instructional Techniques (taken with 5500:521) (b) 3
5500:521 Field Experience: Advanced Instructional Techniques 2
5500:619 Instructional and Management Practices (taken with 5500:603) 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.

A comprehensive examination is required.
Minimum credits required for degree: 48
Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Earth Science and Physics License
(530600MSED)
- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (20 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521) 3
  5500:521 Field Experience: Advanced Instructional Techniques 2
  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) (9 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
  5500:692 Field Experience: Colloquium (section 031) 1
- A comprehensive examination is required.
  Minimum credits required for degree: 50

Option in Multi-Age (grades P-12) Education: Foreign Language French License
(530603MSED)
- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (19 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 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 Multilanguage 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) (12 credits):
  candidates must achieve the minimum level of Advanced Low on OPI to student teach
  5500:694 Field Experience: Classroom Instruction (c) 6
  5500:694 Field Experience: Classroom Instruction (c) 5
  5500:692 Field Experience: Colloquium (section 031) 1
- A comprehensive examination is required.
  Minimum credits required for degree: 50

Option in Multi-Age (grades P-12) Education: Foreign Language Spanish License
(530606MSED)
- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (19 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:520 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 Multilanguage 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) (12 credits):
  candidates must achieve the minimum level of Advanced Low on OPI to student teach
  5500:694 Field Experience: Classroom Instruction (c) 6
  5500:694 Field Experience: Classroom Instruction 5
  5500:692 Field Experience: Colloquium (section 031) 1
- A comprehensive examination is required.
  Minimum credits required for degree: 50

Option in Multi-Age (grades P-12) Education: Visual Arts License
(530601MSED)
- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (19 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
- Field Experience (Student Teaching) (12 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
  7400:598 Student Teaching Seminar 1
- A comprehensive examination is required.
  Minimum credits required for degree: 48

Option in Multi-Age (P-12) Education: Drama License
(530602MSED)
- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (20 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 Multilanguage Licensure 3
  7100:510 Methods of Teaching Elementary Art (Fall Only) 3
  7100:511 Methods of Teaching Secondary Art (Spring Only) 3
- Field Experience (Student Teaching) (12 credits):
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 6
  7100:512 Student Teaching Colloquium 1
- A comprehensive examination is required.
  Minimum credits required for degree: 56

Option in Career-Technical Education: Family and Consumer Sciences License (Grades 4-12)
(530104MSED)
Contact Program Coordinator in Family and Consumer Sciences, Shrank Hall South 215
- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (20 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 Multilanguage Licensure 3
  7400:591 Career-Technical FCS Instructional Strategies (taken in conjunction with 5500:521) 3
  5500:521 Field Experience: Advanced Instructional Techniques 2
  5500:xxx Elective in curriculum or teaching practices approved by advisor 2
- Area of Concentration (9):
  Select 9 credits with advisor approval
  5500:694 Field Experience: Classroom Instruction (section 006) (c) 8
  7400:598 Student Teaching Seminar 1
- A comprehensive examination is required.
  Minimum credits required for degree: 48

Graduate Studies 55
Curricular and Instructional Studies (21 credits):

- 5500:575 Instructional Technology Applications
- 5500:617 Licensure Seminar in Curricular and Instructional Studies
- 7800:572 Methods of Teaching Elementary Theatre Arts
- 7800:573 Methods of Teaching Secondary Theatre Arts
- 5500:619 Instruction and Management Practices (taken in conjunction with 5500:693-011)

Area of Concentration (9):

- Select 9 credits with advisor approval
- Field Experience (Student Teaching) (9 credits):
  - 5500:694 Field Experience: Classroom Instruction (section 006) (c)
  - 5500:692 Student Teaching Colloquium
- A comprehensive examination is required.

Minimum credits required for degree: 49

### Option in Special Education: Mild/Moderate Intervention Specialist Licensure (561204MSED)

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (3 credits):
  - 5500:575 Instructional Technology Applications
- Area of Concentration (26 credits):
  - 5610:540 Individuals with Exceptionalities: Educational and Societal Issues
  - 5610:547 Developmental Characteristics of Mild/Moderate Educational Needs
  - 5610:567 Management Strategies
  - 5610:604 Collaboration and Consultation
  - 5610:563 Assessment in Special Education
  - 5610:552 Special Education Programming: Secondary/Transition
  - 5610:551 Special Education Programming: Mild/Moderate I
  - 5610:557 Special Education Programming: Mild/Moderate II
- Field Experience: Student Teaching and Practicum (14 credits) or Master's Project and Practicum (6 credits):
  - 5610:690 Student Teaching: Special Education
  - 5610:570 Practicum
  - 5610:694 Master's Project
  - 5610:570 Practicum
- A comprehensive examination is required.

Minimum credits required for degree: 42-45

### Option in Special Education: Moderate/Intensive Intervention Specialist Licensure (561205MSED)

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (3 credits):
  - 5500:575 Instructional Technology Applications
- Area of Concentration (27 credits):
  - 5610:540 Individuals with Exceptionalities: Educational and Societal Issues
  - 5610:547 Developmental Characteristics of Moderate/Intensive Educational Needs
  - 5610:567 Management Strategies
  - 5610:604 Collaboration and Consultation Skills for Special Educators
  - 5610:563 Assessment in Special Education
  - 5610:552 Special Education Programming: Secondary/Transition
  - 5610:553 Special Education Programming: Moderate/Intensive I
  - 5610:554 Special Education Programming: Moderate/Intensive II
- Field Experience: Student Teaching and Practicum (14 credits) or Master's Project and Practicum (6 credits):
  - 5610:690 Student Teaching: Special Education
  - 5610:570 Practicum
  - 5610:694 Master's Project
  - 5610:570 Practicum
- A comprehensive examination is required.

Minimum credits required for degree: 43-45

### Option in Special Education: Early Childhood Intervention Specialist Licensure (561206MSED)

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (3 credits):
  - 5500:575 Instructional Technology Applications

Area of Concentration (27 credits):

- 5610:540 Individuals with Exceptionalities: Educational and Societal Issues
- 5610:547 Developmental Characteristics of Moderate/Intensive Educational Needs
- 5610:540 Individuals with Exceptionalities: Educational and Societal Issues
- 5610:547 Developmental Characteristics of Moderate/Intensive Educational Needs
- 5610:567 Management Strategies
- 5610:604 Collaboration and Consultation Skills for Special Educators
- 5610:664 Assessment and Evaluation in Early Childhood Special Education
- 5610:550 Special Education Programming: Early Childhood
- 5610:553 Special Education Programming: Moderate/Intensive I
- 5610:561 Special Education Programming: Early Childhood Moderate/Intensive

Field Experience: Student Teaching and Practicum (14 credits) or Master's Project and Practicum (6 credits):

Minimum credits required for degree: 42-45

### Teaching Field Requirements

Candidates in the Master's with Licensure program must also meet teaching field requirements as established by departmental faculty and approved by the appropriate learned societies and the Ohio Department of Education. For additional information about specific program requirements please consult the Office of Student Affairs at (330) 972-6970.

### Student Portfolio

Students admitted to their College of Education teacher 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 to practice and 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) (570100MA) (570100MS)
(Admissions to General Administration currently suspended)

- Foundation – 12 credits:
  5100:600 Philosophies of Education 3
  or
  5100:604 Cultural Foundations of Education 3
  or
  5100:620 School Culture and Governance 3
  or
  5100:624 Seminar: Educational Psychology 3
  or
  5100:636 Seminar: Educational Technology 3
  or
  5100:640 Techniques of Research 3

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

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

Total: 33 credits

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

The Principalship (570104MA) (570104MS)
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.

Admission Requirements:
No supplemental materials in addition to submission of the graduate application and official transcripts are required for admission. Applications are accepted on a rolling basis.

Degree Requirements:
- Foundation Studies (9)
  5100:600 Philosophies of Education 3
  or
  5100:604 Cultural Foundations of Education 3
  or
  5100:624 Educational Psychology 3
  or
  5100:640 Techniques of Research 3

- Educational Leadership Core (21)
  5170:601 Organizational Leadership 3
  5170:604 School-Community Relations 3
  5170:607 School Law 3
  5170:610 Supervision of Instruction 3
  5170:620 School Culture and Governance 3
  5170:615 Student Services and Disability Law 3
  5170:720 Seminar: Capstone 3

Total: 30 credits

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

The Principalship Licensure Program is an option in educational administration designed to prepare a candidate for an Ohio license to practice as a school principal and is built on two components: the Principalship master’s degree and the post-master’s courses listed below.

Post-Master’s Licensure Courses – 12 credits:
  5170:602 Management of Physical Resources 3
  5170:603 Management of Human Resources 3
  5170:606/686 Principal Internship 3 credits each

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 (570006MA) (570006MS)
The Department of Educational Foundations and Leadership offers programs leading to Educational Administrative Specialist licenses granted by the Ohio Department of Education.

Each of these specialist licensure programs consists of a general administration master’s degree and a post-master’s block of required courses.

Administrative Specialist: Educational Research (Admissions to Educational Research currently suspended)

- Foundation Studies – 18 credits:
  5100:600 Philosophies of Education 3
  or
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  or
  5100:620 School Culture and Governance 3
  or
  5100:624 Seminar: Educational Psychology 3
  or
  5100:636 Seminar: Educational Technology 3
  or
  5100:640 Techniques of Research 3
  or
  5100:642 Topical Seminar in Measurement and Evaluation 3
  or
  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 Superintendent 3
  5170:795 Advanced Educational Statistics 3
  5170:796 Internship* 4
  5170:801 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
  or
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  or
  5100:620 School Culture and Governance 3
  or
  5100:624 Seminar: Educational Psychology 3
  or
  5100:636 Seminar: Educational Technology 3
  or
  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
  5170:610 Supervision of Instruction 3

- Post-Master’s Requirements – 14 credits:
  5170:704 Advanced Organizational Leadership 3
  5170:705 Decision Making in Educational Administration 3
  5170:707 The Superintendent 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
  or
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  or
  5100:620 School Culture and Governance 3
  or
  5100:624 Seminar: Educational Psychology 3
  or
  5100:636 Seminar: Educational Technology 3
  or
  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 Superintendent 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
  or 5100:624 Seminar: Educational Psychology 3
  5100:636 Topical Seminar in Educational Technology 3
  5100:640 Techniques of Research 3

- Educational Administration – 21 credits:
  5170:601 Organizational Leadership 3
  5170:603 Management of Human Resources 3
  5170:606 Evaluation in Educational Organizations 3
  5170:607 School Law 3
  5170:608 School Finance and Economics 3
  5170:613 Student Services and Interagency Collaboration 3
  or 5170:707 The Superintendent 3

- Post-Master’s Requirements – 16 credits:
  5600:631 Elementary/Secondary School Counseling 3
  5600:653 Group Counseling 3
  5600:659 Organization and Administration of Guidance Services 3
  5170:704 Advanced Organizational Leadership 3
  5170:785/6 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
  or 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 Psychology of Instruction for Teaching and Learning 3
  or 5100:624 Seminar: Educational Psychology 3
  5100:636 Topical Seminar in Educational Technology 3
  5100:640 Techniques of Research 3

- Educational Administration – 21 credits:
  5170:601 Organizational Leadership 3
  5170:603 Management of Human Resources 3
  5170:606 Evaluation in Educational Organizations 3
  5170:607 School Law 3
  5170:608 School Finance and Economics 3
  5170:620 The Principalship 3
  or 5170:707 The Superintendent 3

- Post-Master’s Requirements – 16 credits:
  5170:604 School/Community Relations 3
  5170:704 Advanced Organizational Leadership 3
  7600:625 Theories of Mass Communication 3
  7600:628 Contemporary Public Relations Theory 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.

Superintendent Program

(570103MA) (570103MS)

(Admissions to the Superintendent Program currently suspended)

The Department of Educational Foundations and Leadership offers a Superintendent Licensure-only program. The license builds from the Principalship Master’s Degree and the Principalship Licensure programs. Requirements for the Superintendent License are listed below.

- 5170:608 School Finance and Economics 3
- 5170:704 Advanced Organizational Leadership 3
- 5170:707 The Superintendent 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 to take 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

(570102MA) (570102MS)

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.

Admission Requirements

Persons wishing to pursue a master’s degree in Educational Administration-Higher Education Option must apply to the Graduate School for admission to the program. In addition to the completed application to the Graduate School, applicants should have a minimum 2.75 GPA, completion of the Graduate Record Exam within the past five years, and a Declaration of Intent that includes a statement of professional goals and reasons for choosing the field of higher education administration and The University of Akron. Applications are accepted on a rolling basis.

Degree Requirements

- Foundation courses (6 credits):
  5100:640 Techniques of Research 3
  5100:703 Seminar: History and Philosophy of Higher Education 3

- Required courses (30 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
  5190:600 Advanced Administrative Colloquium in Higher Education 3
  5190:601 Internship in Higher Education 2
  5190:602 Internship in Higher Education Seminar 1
  5190:610 Diversity Issues in Higher Education 3
  5190:620 Finance and Higher Education 3
  5190:626 Policy, Assessment, and Accountability in Higher Education 3

Total Hours Required: 36

- Electives (9 to 12 credits):
  5190:525 Topical Seminar 3
  5190:580 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
- Assessment and Evaluation

This Master’s degree program area is designed for either the student interested in improving present educational skills or the student interested in educational or instructional positions in business, industry, and social services. The student’s program of study will be determined jointly by the student and advisor. The program consists of:

- College Core Foundation Studies (nine credits)
- 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 and Assessment and Evaluation)
- Election of master’s thesis (5100:699), or master’s problem (5100:698), or an additional six semester credits of coursework. Students choosing to do a master’s thesis or master’s problem require 30 semester credits to graduate. Students choosing to do only coursework require 36 semester credits to graduate (except for Assessment and Evaluation which requires 30 semester credits to graduate).

Admission Requirements

No supplemental materials in addition to submission of the graduate application and official transcripts are required for admission to the specialized options in Educational Foundations. Applications are accepted on a rolling basis.

Instructional Technology Option (30 credits)

(510001MA)

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 of 30 semester hours provides students with exposure to a wide range of emerging technologies, while still ensuring the basic competencies required of all practitioners. The program directly addresses the rapidly accelerating changes in the field of interactive and Web 2.0 technologies while being rooted in instructional design principles. The focus is on K-12 educators working in the field or recent graduates. Students are required to complete an ePortfolio demonstrat-
ing their application of instructional technology in the field as well as their expertise in their graduate classes. The program is offered in a blended format with some classes fully online and some a combination of face-to-face and online.

Master’s degree graduates of the Instructional Technology program have found employment as technology facilitators and coaches 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. An endorsement for K-12 teachers in Technology Facilitation is available and is embedded into the coursework of this graduate degree program.

- Foundation Studies (9 credits)
  5100:600 Philosophies of Education 3
  or
  5100:604 Cultural Foundations of Education 3
  5100:624 Educational Psychology 3
  5100:640 Techniques of Research 3

- Required Core Courses (15 credits)
  5150:610 Introduction to Instructional Technology 3
  5150:631 Instructional Design 3
  5150:615 Planning for Technology 3
  5150:633 Multimedia/Hypermedia 3
  5150:638 Integrating and Implementing Technology 3

- Electives (choose 6 credits)
  5100:590, 591 Workshop: Instructional Technology (permission) 1-3
  5150:632 Web-Based Learning Systems (required for Technology Facilitation Endorsement) 3
  5100:639 Strategies for Online Teaching and Learning 3
  5100:635 Emerging Technologies in Instruction 3
  5100:686 Master’s Technology Project 3

**Technology Facilitation Endorsement (K-12 Computer Technology Endorsement)**

The Graduate K-12 Computer Technology (Technology Facilitation Endorsement) intended for teachers who wish to serve as a technology integration facilitator or technology coach for colleagues in their schools and districts. The endorsement is obtained through an application process to the Ohio Department of Education and upon approval will be added to your teaching license. This endorsement is only available to individuals who currently have or who are simultaneously getting an initial Ohio license/certificate e.g., in Early Childhood, Middle Level Science, Adolescent/Young Adult Social Studies, etc.). This endorsement can be completed with a master’s degree in Instructional Technology in the Department of Educational Foundations and Leadership (330-927-7773). 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.

There is only one Computer Technology endorsement offered within the IT masters degree program. It is named the Graduate K-12 Computer Technology Endorsement. This endorsement follows the ISTE TF standards for Technology Facilitation. This endorsement is designed to prepare teachers to be effective users of technology in teaching practice of their colleagues at building and district levels. It is not intended to develop skills in computer repair, network maintenance or computer programming languages.

  5150:610 Introduction to Instructional Technology 3
  5150:614 Planning for Technology 3
  5150:631 Instructional Design 3
  5150:632 Web-Based Learning Systems 3
  5150:633 Multimedia/Hypermedia 3
  5150:638 Integrating and Implementing Technology 3

**Educational Psychology Option (30-36 credits)**

**510002MA** (admissions suspended)

The cognitive theory and research underlie much of the reform movement in education and the allied professions. The graduate program in Educational Foundations emphasizing Educational Psychology emphasizes a strong understanding of cognition, motivation, teaching, learning, and individual differences and is designed to assist students to become more competent practitioners in a wide range of contexts in education and allied professions.

- Foundation Studies (9 credits)
  5100:600 Philosophies of Education 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 Psychology of Instruction for Teaching and Learning 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3

- Electives (15-21 hours)
  5100:624 Seminar: Educational Psychology (may be repeated for up to 6 credits) 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3

- Outside Department Requirements (6 hours)
  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

The 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.

**Social/Philosophical Foundations of Education Option (30 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.

**Outside Department Requirements (6 hours)**

- Seminar in Curricular and Instructional Studies (Cooperative Learning) 3

**Assessment and Evaluation Option (30 credits)**

The graduate program in Educational Foundations emphasizing Assessment and Evaluation prepares teachers and other educators to be leaders in the area of school-based assessment and evaluation. Students in the program will develop skills in assessing a variety of student outcomes and in conducting classroom, school or building-level, and district-level evaluations.

- Foundation Studies (9 credits)
  5100:600 Philosophies of Education 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3

- Program Required (15 credits)
  5100:602 Comparative and International Education 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:705 Seminar: Social/Philosophical Foundations of Education 3
  5100:699 Master’s Thesis 6

- Program Electives (6 credits)
  5100:697 Independent Study 3
  5100:701 History of Education in American Society 3

Electives should be decided in consultation with the advisor. Up to six credits of coursework outside of the college can be taken with approval of the advisor.

**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**

The Department of Educational Foundations and Leadership requires no supplemental materials in addition to submission of the graduate application and official transcripts for admission to the master’s degree program in Postsecondary Technical Education. Applications are accepted on a rolling basis.
Program for those with a B.S. in Technical Education (540000MSTE)

- 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:
  - 5150:639 Strategies for Online Teaching and 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
    or 5400:699 Master’s Thesis 6
  Total: 30 credits

Program for those without a B.S. in Technical Education (540020MSTE)

- 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:
  - 5150:639 Strategies for Online Learning 3
  - 5400:505 Workplace Education for Youth and Adults 3
    or 5400:515 Training in Business and Industry 3
  - 5400:600 The Two-Year College 3
  - 5400:620 Postsecondary Instructional Technology 3
  - 5400:530 Systematic Curriculum Design for Postsecondary Instruction 3
  - 5400:535 Systematic Instructional Design in Postsecondary Education 3
  - 5400:605 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 (555000MA) (555000MS)

(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
  - Remaining six (6) credits to be chosen, with approval of advisor, from 5560:5xx or 5560:6xx 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

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

Physical Education

Physical Education Option (555000MA) (555000MS)

(Admissions to the Physical Education option are currently suspended)

The graduate program in physical education, requiring 33 credits, is designed for post-baccalaureate and in-service physical educators. Training received in this program can prepare students to earn 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
    - 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
  - 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
  - 5560:695 Field Experience: Master’s 2 (minimum)
    or 5550:698 Master’s Problem 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.

Exercise Physiology/Adult Fitness Option (555003MA) (555003MS)

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.

Admission Requirements

In addition to the graduate application and official transcripts applicants must submit a statement of purpose and three letters of recommendation. Applications are accepted on a rolling basis.

Degree Requirements

- Required Foundation Courses (6 credits):
  - 5100:610 Introduction to Statistics in Human Services 3
  - 5100:640 Techniques of Research 3
- Required Department Courses (22 credits):
  - 5560:600 Biomechanics Applied to Sports and Physical Activity 4
  - 5560:618 Cardiorespiratory Function 3
  - 3100:565 Advanced Cardiovascular Physiology 3
  - 5560:615 Current Topics in Exercise Physiology 3
  - 5550:605 Physiology of Muscular Activity and Exercise 3
  - 5550:505 Advanced Strength and Conditioning 3
  - 5550:620 Laboratory Instrumentation Techniques in Exercise Physiology 3
  - 5550:526 Nutrition in Sports 3
- Required Clinical Experience (2 credits minimum):
  - 5560:695 Field Experience: Master’s 3

The University of Akron 2010-2011
Admittance to College of Nursing (Special/Non-Degree status)

Admittance to College of Education (Graduate Studies)

Admittance to Graduate School

B.S.N. Degree

R.N. License

Admission Requirements—Sequence 1

Admittance to School Nurse License Program currently suspended

Electives (3 credit minimum) - select at least one course from the list below

- Sports Planning and Promotion
- Cardiac Rehab Principles
- Sports Administration and Supervision
- Motivational Aspects of Physical Activity
- General Medical Aspects
- Special Topics in Physical Education

* All coursework should be planned with and approved by student’s advisor.

Sport Science/Coaching Option

This sport science program option has been designed to meet the needs of individuals interested in advanced training to prepare for a career in the sport industry. Students are prepared to pursue career opportunities in high school, college and recreational sport, coaching and instruction. Additionally, students pursue opportunities related to a career in high school, college or professional sport administration or continue a career in teaching and coaching at the secondary level.

Admission Requirements

In addition to the graduate application and official transcripts applicants must submit a statement of purpose and three letters of recommendation. Applications are accepted on a rolling basis.

Degree Requirements

- Required Foundation Courses (6 credits)
  - Current Issues in Physical Education
  - Seminar Educational Psychology
  - Techniques of Research
- Required Courses (17 credits)
  - Principles of Coaching
  - Legal Aspects of Physical Activity
  - Sports Administration and Supervision
  - Motor Behavior Applied to Sport
  - Tactics and Strategies in the Science of Coaching
  - Motivational Aspects of Physical Activity
- Electives (3 credit minimum) - select at least one course from the list below
  - 5100:624 Seminar Educational Psychology
  - 5100:640 Techniques of Research

Choose one area of concentration in sport administration or coaching:

- Sport Administration (11-12 credits)
  - Sport Planning and Promotion
  - Business of Sport

- Coaching (10-12 credits)
  - Injury Management for Teachers and Coaches
  - Nutrition for Teachers and Coaches
  - Physiology of Muscular Activity and Exercise
  - Field Experience: Master’s
  - Master’s Problem

- Electives (0-2 credits)

The following courses are relevant to this degree. The student may select additional courses and/or workshops related to the graduate program:

- Workshop (e.g., Issues of Student Athletes)
- Special Topics (e.g., Coaching Youth Sports)

Total Program

Graduate Studies

61

Selected coursework in College of Education and College of Nursing

Supervised School Nurse experience

Course work distributed over the following areas:

- Community health; family counseling; mental and emotional health, current topics in health education; methods of teaching/instructional design; learner and learning process; evaluation and measurement of learning; principles, comprehensive school health; advanced pediatric/adolescent assessment; advanced nursing research.

To satisfy the above requirements, an applicant must complete at least the following 12 graduate credits or their equivalents of College of Education core courses listed below:

- Community Health
- Comprehensive School Health
- Methods and Materials of Teaching Health Education
- Statistics in Education

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

- Advanced Pediatric/Adolescent Assessment
- Nursing Inquiry I
- School Nurse Practicum I
- School Nurse Practicum II (required of all school nursing students)

Subtotal 11-16

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

- Pathophysiological Concepts
- Pharmacology for Child and Adolescent Health Nursing

Total graduate credits for licensure 23-28

Application 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

To satisfy the above requirements, an applicant must complete at least the following 12 graduate credits or their equivalents of College of Education core courses listed below:

- Community Health
- Comprehensive School Health
- Methods and Materials of Teaching Health Education
- Elective within College of Education

(upon approval of College of Education school nurse licensing advisor)

Total 12

Master’s degree plus licensure.

School Nurse License Program

(Admission to School Nurse License Program currently suspended)

Admission Requirements—Sequence 2

- R.N. License
- B.S.N. Degree
- Admittance to Graduate School
- Admittance to College of Education (Graduate Studies)
- Admittance to College of Nursing (Special/Non-Degree status)

* 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

Ravi Krivi, Ph.D., Acting Dean
James J. Divoky, D.B.A., Acting Associate Dean and
Susan C. Hanlon, D.B.A., Acting Assistant Dean and
Director of Graduate Programs

Mission Statement

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

The analytical and conceptual abilities needed to identify and cope successfully with ambiguous and unstructured business problems;

A solid grounding in the basic business functions, with an emphasis on the integration of those functions and an understanding of how those functions are linked in the formulation and execution of business strategy;

A strong ethical perspective, an appreciation of cultural diversity, and an ability to communicate in an effective, persuasive manner;

An understanding of the legal, political, regulatory, economic and technological environment; and,

An awareness of the global economy in which business operates and an understanding of the forces that shape competitiveness in that economy.

In order to accomplish these goals, the graduate faculty of the College of Business Administration commits itself to providing a quality graduate business experience. That experience will have a strong professional focus, characterized by teamwork among students. The faculty is dedicated to creating an intense and stimulating environment that emphasizes the application of theory to real managerial problems and that is permeated by the basic concepts of globalization, ethics, leadership, and planned change.

We recognize that there are many skills students need to acquire in their MBA program in addition to technical competencies in their field of concentration. These include communication and interpersonal skills, analytical reasoning and leadership skills. Eight of these "expanded" competencies to be intertwined throughout the program are as follows:

Communication
1. Ability to present views and concepts clearly in writing;
2. Ability to read, critique, and judge the value of written work;
3. Ability to present views and concepts clearly through oral communication.

Group work and people skills
4. Ability to understand group dynamics and work effectively with people from diverse backgrounds;
5. Ability to manage conflict;
6. Ability to organize and delegate tasks.

Critical thinking and creative and effective problem solving
7. Ability to solve diverse, structured and unstructured problems;
8. Ability to deal effectively with imposed pressures and deadlines.

The basics for most of these skills may be taught in prior bachelor degree programs and are taught in the foundation core courses. Experiences are provided to students throughout the program in a variety of ways to develop these skills. A student’s progress is to be documented and evaluated by self evaluation, peer evaluation, and faculty evaluation.

MASTER’S DEGREE

The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration, Master of Science in Management, Master of Taxation, and Master of Science in Accountancy. The University has offered programs of study in business since 1919, initially through the Department of Commerce and since 1952 through the College of Business Administration. In 1968, 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 500 graduate students, the community and regional business organizations. To meet its urban objectives, the college offers most graduate courses only between 5:20 p.m. and 10:40 p.m. The master’s programs are designed to serve those who work full-time and wish to pursue a master’s program on a part-time basis. However, many students enroll full-time to complete the master’s program in a shorter period.

Admission

Policy

The applicant must meet one (1) of the following eligibility requirements which are in conformity with the Graduate School and the college’s accrediting agency (AACSB).

- Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based upon the over-all undergraduate grade-point average (GPA) (A=4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.
- Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,100 or more points based on the junior-senior (i.e., last 64 semester or 96 quarter credits) GPA (A=4.0) times 200 plus the GMAT score.
- Hold a degree from outside the United States and have an academic standing of first or high second class, satisfactory evidence of competence in English (i.e., TOEFL score of 550 or above) and a score of at least 500 on the GMAT.

Students who are admitted on a provisional basis must achieve a composite index of 1,150 based on foundation course GPA times 200 plus GMAT score.

Even though an applicant is eligible for consideration, an offer of admission is not guaranteed. Since staff, facilities, and resources are limited, a determination must be made as to the number of applicants who can be adequately served among those eligible. As a result, offers of admission may be limited to only the most qualified of the eligible applicants as determined by the CBA Graduate Admissions Committee. The committee will consider the following in making decisions: the difficulty of the applicant's undergraduate program; the length of time and activities since graduation; and the percentile ranking on the GMAT. For example, students admitted into the graduate business programs last year had an average GMAT of 570 and an average point index of 1,200.

In rare instances, the applicant who has taken the GMAT but does not meet requirements may be considered for admission. Also, those who have previously been denied admission may, upon presentation of new information, be reconsidered. In either case, the applicant must petition, in writing, the CBA Graduate Admissions Committee giving those reasons relevant to the situation which demonstrate the likelihood of success – the burden of proof is on the applicant.

Under the regulations of the Graduate School, eligible applicants who have been extended an offer of admission by the CBA Graduate Admissions Committee are recommended to the dean of the Graduate School for either “full” or “provisional” graduate status. Those admitted with the classification “provisional status” who have not attained an overall 3.00 GPA upon the completion of 12 graduate credits will be dismissed from the program. Students admitted as special non-degree are restricted to enrolling in a maximum of nine credits foundation courses only.

Procedure

GMAT scores should be sent to the Director of Graduate Programs in Business, College of Business Administration, The University of Akron, Akron OH 44325-4805 (institution code 1829). The GMAT test is administered world-wide and the applicant should register for it sufficiently in advance to the filing of the graduate application, so evaluation for admission will not be delayed. GMAT registration bulletins can be obtained from the Graduate Programs in Business Office or online at http://www.mba.com. Those who have taken the GMAT more than five years ago are normally required to retake it.

All applications and accompanying documentation are evaluated simultaneously by the Graduate Admissions Committee (GAC). The GAC meets monthly and the applicant will be informed in writing of the GAC’s decision within one week of the meeting. Specific admission requirements and application deadlines can be found at http://www.uakron.edu/academics_majors/graduate_programs/.

Requirements

To be awarded any master’s degree from the College of Business Administration, a student must:

- Meet the time and grade-point requirements of the Graduate School.
- Complete the minimum credits in each of the degree descriptions.
- Complete all course requirements of applicable master’s program.

Questions regarding these Policies, Procedures, and Requirements may be sent via e-mail to gradcba@uakron.edu. Further information may be found at the College of Business Administration website: http://www.uakron.edu/cba/grad.

Transfer Policy

The College of Business Administration will permit nine credits of comparable graduate credits to be transferred into any of the graduate business programs. These credits must be pre-approved by the director of graduate programs in the C.B.A. This nine credit policy also applies to second degree applicants.
Second Degree

For a student who has already obtained one master’s degree in business, it is possible to pursue another degree in the college provided that: (1) no second M.B.A. is to be obtained; (2) the desired program (degree curriculum) is specifically approved in advance by the director of graduate programs in business; and (3) not fewer than 21 new credits are earned for the second degree.

Master of Business Administration

The Master of Business Administration program is designed to give the student a general knowledge of the functional areas of business and permit the concentration of study in one of the following areas: direct integrated marketing, electronic business, entrepreneurship, finance, health care management, international business, international finance, management, management of technology and innovation, strategic marketing, or supply chain management. The program consists of 58 graduate credits. Foundation courses may be waived for those who have had recent study in the areas. Foundation and advanced courses can be taken concurrently provided that all prerequisites have been met. Some foundation level courses are available over the World Wide Web. Students should contact the graduate programs office for more information about web-based courses.

- **Foundation Courses:**
  - All are required unless waived at the time of admission. Foundation courses may not be used as concentration or elective courses.
  - 3250:600 Foundation of Economic Analysis 3
  - 6200:601 Financial Accounting 3
  - 6400:602 Managerial Finance 3
  - 6400:695 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

- **Functional Core (16 credits):**
  - 6200:610 Process Analysis and Cost Management 3
  - 6400:674 Strategic Financial Decision Making 3
  - 6500:670 Management of Operations 3
  - 6600:620 Strategic Marketing Management 3
  - 6700:696 Special Topics in Professional Development: Leadership 1
  - 6800:605 International Business Environments 3

- **Concentration (12 credits):**
  - The student must select 12 credits in a field of concentration (direct integrated marketing, electronic business, entrepreneurship, finance, 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):**
  - 6500:696 Business Strategy and Policy: Domestic and International 3

**Program Summary**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Core</td>
<td>24</td>
</tr>
<tr>
<td>Functional Core</td>
<td>16</td>
</tr>
<tr>
<td>Concentration</td>
<td>12</td>
</tr>
<tr>
<td>Free Electives</td>
<td>3</td>
</tr>
<tr>
<td>Integrative</td>
<td>3</td>
</tr>
<tr>
<td>Total Program</td>
<td>58</td>
</tr>
</tbody>
</table>

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

**Concentration in Accounting (620000MBA)**

Effective 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 coursework. 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) (650108MBA)**

- **Required:**
  - 6500:608 Entrepreneurship 3
  - 6500:644 Knowledge Management and Business Intelligence 3
  - 6600:635 E-Business Marketing Strategies and Tactics 3

- **Choose 3 credits from the following:**
  - 6200:658 Enterprise Risk Assessment and Assurance 3
  - 6500:685 Management of Technology 3
  - 6600:645 Innovative Marketing Strategies 3

Concentration in Entrepreneurship (630000MBA)

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:**
  - 6600:657 Business Negotiations 3
  - 6500:608 Entrepreneurship 3

- **Choose two courses from the following:**
  - 6500:665 Management of Technology 3
  - 6600:580 Sales Management 3
  - 6400:631 Financial Markets and Institutions 3
  - 6400:645 Investment Analysis 3

Concentration in Direct Integrated Marketing (660110MBA)

- **Required (9 credits)**
  - 6600:615 Database Marketing 3
  - 6600:630 Customer Relationship Management 3
  - 6600:655 Integrated Marketing Communications 3

- **Choose three credits from the following:**
  - 6600:640 Business Research Methods 3
  - 6600:645 Innovative Marketing Strategies 3

Concentration in Finance (640000MBA)

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 (650006MBA)

- **Required:**
  - 6500:580 Introduction to Health Care Management 3
  - 6500:663 Health Services Systems Management 3

- **Choose three credits from the following:**
  - 6500:582 Health Services Operations Management 3
  - 6500:585 Special Topics in Health Services Administration 3
  - 6500:686 Health Services Research Project 3
  - 6500:688 Independent Study in Health Services Administration 3
  - 3000:680 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
  - 3980:622 Urban Planning and Health Care 3
  - 4800:630 Biomedical Computing 3
  - 8200:632 Fiscal Management in Nursing Administration 3
  - Three graduate credits approved by the Director.

No more than six credits at the 500-level permitted.

Concentration in International Business (680000MBA)

- **Required (choose one of the following courses):**
  - 6400:650 Techniques of Financial Modeling 3
  - 6500:662 Supply Chain Analysis 3
  - 6500:683 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 Independent Study in Finance 3
  - 6400:698 Independent Study: Business Law 3
  - 6500:656 Management of Global Supply Chain and Operations 3
  - 6500:659 International Human Resource Management 3
  - 6500:661 Comparative Systems of Employee and Labor Relations 3
International Business students must ALSO select one of the following options:

1. Cross-Cultural Option: demonstrate reading and conversational proficiency in a language other than English.
2. Required (choose one of the following courses):
   - 6200:664 Research and Quantitative Methods in Accounting 3
   - 6400:650 Techniques of Financial Modeling 3
   - 6600:663 Data Analysis for Managers 3
   - 6600:664 Business Research Methods 3
   - 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
   - 6600:659 International Human Resource Management 3
   - 6500:661 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
   - 3400:577 Mexico 3
   - 3700:505 Politics in the Middle East 3
   - 3700:512 Global Environmental Politics 3

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

Concentration in International Business for International Executives (680003MBA)

- Required (choose one of the following courses):
  - 6200:664 Research and Quantitative Methods in Accounting 3
  - 6400:650 Techniques of Financial Modeling 3
  - 6600:663 Data Analysis for Managers 3
  - 6600:640 Business Research Methods 3
  - 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
  - 6600:659 International Human Resource Management 3
  - 6500:661 Comparative Systems of Employee and Labor Relations 3

Concentration in International Finance (640007MBA)

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
  - 6400:538 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
  - 6400:671 Capital Budgeting 3
  - 6400:690 Selected Topics in Finance 3
  - 6400:697 Independent Study in Finance 3
  - 6400:698 Independent Study: Business Law 3

Concentration in Management (650000MBA)

- 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 (650107MBA)

This program focuses on enterprise-wide management of technology and innovation in organizations. Value is added by a holistic integration of intellectual capital, manufacturing agility, new product development, knowledge management, and other competencies.

- Required:
  - 6500:666 Management of Global Supply Chain and Operations 3
  - 6500:667 Supply Chain Analysis 3
  - 6500:668 Data Analysis for Managers 3
  - 6500:669 Management of Technology 3
  - 6500:670 Polymer Management Decisions 3
  - 6600:540 Product and Brand Management 3

- Recommended free elective (3 credits):
  - Select one course from the following courses.
    - 6500:686 Entrepreneurship 3
    - 6600:575 Business Negotiations 3
    - 6500:640 Information Systems and IT Governance 3
    - 6600:570 Human Resource Systems for Managers 3
    - 6500:678 Project Management 3

Concentration in Strategic Marketing (660000MBA)

- Required (9 credits)
  - 6600:640 Business Research Methods 3
  - 6600:645 Innovative Marketing Strategies 3
  - 6600:670 Competitive Business Strategies 3

- Choose three credits from the following:
  - 6600:540 Product and Brand Management 3
  - 6600:630 Customer Relations Management 3
  - 6600:635 E-Business: Electronic Marketing 3
  - 6600:655 Integrated Marketing Communications 3

Concentration in Supply Chain Management (650202MBA)

Supply chain management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain as efficiently as possible. The overall goal of supply chain management is to impact the organization's bottom line in a positive way while delivering the best services to customers at the lowest possible cost. Supply chain management professionals may expand beyond the acquisition of materials, services, and equipment into such areas as planning and policy making, motivation, evaluation, product development, and control. Supply chain management careers include working as a buyer, contract negotiator, inventory manager, import/export goods manager, or a logistics manager.

Students with a Supply Chain concentration may not take more than six credits of 500-level courses.

- Required:
  - 6500:675 Supply Chain Management 3
  - 6500:680 Supply Chain Logistics Management 3
  - 6500:676 Supply Chain Sourcing 3

- Choose 3 credits from the following:
  - 6500:582 Health Services Operations Management 3
  - 6500:656 Management of Global Supply Chains and Operations 3
  - 6500:662 Supply Chain Analysis 3
  - 6500:678 Project Management 3

Master of Science in Accountancy (620004MSA: Accounting) (620005MSA: Accounting Information Systems)

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 accountant 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, 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.
  - 6200:603 Accounting Decision Support Systems 3
  - 6400:632 Managerial Finance 3
  - 6400:623 Legal Aspects of Business Transactions 3
  - 6500:601 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.
  - 6200:621 Corporate Accounting and Financial Reporting I 3
  - 6200:321 Intermediate Accounting I or equivalent 3
  - 6200:622 Corporate Accounting and Financial Reporting II or equivalent 3
  - 6200:322 Intermediate Accounting II or equivalent 3
  - 6200:610 Process Analysis and Cost Management 3
  - 6200:301 Cost Management and ERP or equivalent 3
  - 6200:540 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 ERP and Financial Data Communications 3
  - 6200:637 Contemporary Accounting Issues 3
  - 6200:658 Enterprise Risk Assessment and Assurance 3
  - 6200:669 Accounting and Assurance Project (capstone course) 3
  - 6200:520 Advanced Accounting* 3

- **Group B:** Taxation Core (3 - 6 credits):
  - 6200:627 Survey of Federal Taxation 3
  - 6200:531 Taxation II* 3
  - 6200:628 Tax Research 3
  - 6200:631 Corporate Taxation I 3

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

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

Accelerated BS/MS Accounting (620007MSA)

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 (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) and remaining 21 credits of 600-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 year 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) courses. At least 12 credits must be 600-level accounting (6200) courses.

- **Group A:** Accounting and Assurance Core (12 - 15 credits):
  - 6200:615 ERP and Financial Data Communications 3
  - 6200:637 Contemporary Accounting Issues 3
  - 6200:658 Enterprise Risk Assessment and Assurance 3
  - 6200:669 Accounting and Assurance Project (capstone course) 3
  - 6200:520 Advanced Accounting* 3

- **Group B:** Taxation Core (3 - 6 credits):
  - 6200:627 Survey of Federal Taxation 3
  - 6200:631 Corporate Taxation I 3

- **Group C:** Accounting Electives (0 - 6 credits):
  - 6200:554 Information Systems Security 3

- **Group D:** Information Systems Electives (0 - 12 credits):
  - 6500:520 Management of Data Networks 3
  - 6500:643 Analysis and Design of Business Systems 3
  - 6500:641 Business Database Systems 3
  - 6500:645 Software Development and Quality Assurance 3
  - 6500:678 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 Financial Markets and Institutions 3
  - 6400:645 Investment Analysis 3
  - 6400:634 Strategic Financial Decision Making 3
  - 6400:681 Multinational Corporate Finance 3
  - 6400:691 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.
The Master of Taxation (620002MT)

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 knowledge, skills, and abilities needed to function as a taxation specialist in the United States. Students in the program will:

a. develop substantive and comprehensive knowledge of federal taxation;

b. understand the state and local taxation regimes of selected states, including the State of Ohio;

c. develop abilities to research taxation issues, identify and solve taxation problems, and plan taxation strategies;

d. develop the ability to contribute as a taxation specialist to strategic planning and decision-making in organizations;

e. demonstrate effective written and oral presentation skills; and

f. 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 UD 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 certification (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.

Total concentration 21

- Required Master of Taxation Courses:
  6200:628 Tax Research 3
  6200:631 Corporate Taxation I 3
  6200:632 Taxation of Transactions in Property 3
  9200:721 Taxation of Intellectual Property 3
  6200:641 Taxation of Partnerships 3
  6200:648 Tax Practice and Procedure 3
  6200:643 Tax Accounting 3
  6200:649 State and Local Taxation 3
  6200:651 International Taxation 3

- Approved Taxation Electives:
  6200:633 Estate and Gift Taxation 3
  6200:642 Corporate Taxation II 3
  6200:644 Income Taxation of Decedents, Trusts, and Estates 3
  6200:645 Advanced Individual Taxation 3
  6200:646 Consolidated Tax Returns 3
  6200:647 Qualified Pension and Profit-Sharing Plans 3
  6200:650 Estate Planning 3
  6200:662 5 Corp 3
  6200:693 Selected Topics: Mergers and Acquisitions 3

Not all elective classes will be offered each year. Electives will be offered based on demand and faculty resource availability. 6200:628 Tax Research must be taken in the first semester that the class is available.

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 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 free 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 document 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
  6400:655 Government and Business 3
  6500:600 Management and Organizational Behavior 3
  6500:601 Quantitative Decision Making 3
  6500:602 Computer Techniques for Management 3
  6600:600 Marketing Concepts 3

Options

Choose a concentration from the following:

- Information Systems Management (ISM) (650004MSM)
  - 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)
    6500:620 Management of Data Networks 3
    6500:654 Information Systems Security 3
    6500:664 Knowledge Management and Business Intelligence 3
    6500:651 Organizational Transformation or 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 6500:620 and 6500:654.
Human Resource Option (HRM) (650005MSM)

- 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)


Accelerated MSM - ISM Program Option (650204MISM)

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 require-ments 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) 3
6700:695 Internship (see below for guidelines) 3

Electives (6 credits)

6500:520 Management of Data Networks (May be applied toward the program if taken as an undergraduate senior and did not apply toward the baccalaureate degree) 3
6500:554 Information System Security (May be applied toward the program if taken as an undergraduate senior and did not apply toward the baccalaureate degree) 3
6500:644 Knowledge Management and Business Intelligence 3
6500:652 Organizational Behavior 3
6500:660:6xx Any Management course 3

Total Concentration 18

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, net-working operations and infrastructure, technical documentation, systems installation, mainte-nance, 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 manage-ment 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 admis-sions, write: Director of Admissions, School of Law, The University of Akron, Akron, OH 44325-2901). A baccalaureate degree is required.

Degree Requirements

A student is required to fulfill the requirements of the School of Law, 87 credits, which includes 9 to 10 credits transferred from the CBA. The requirements of the CBA may be met by fulfilling the requirements previously listed which include the common body of knowledge (Foundation) courses (unless waived because of prior undergraduate credit earned), and 26 credits for M.B.A. (24 for the M.S.M.-HR) of advanced courses in the CBA plus nine credits transferred from the School of Law. The Master of Taxation program consists of 21 credits of advanced courses in the CBA plus 9 credits transferred from the School of Law. The reciprocal 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 Grad-uate 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, depend-ing on the master’s program pursued. More credits may be required for the mas-ter’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

Couses that will transfer as MTax elective courses:

9200:639 Estate and Gift Taxation (3 credits)
9200:645 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)
9200:685 Wills, Trusts, and Estates I (3 credits)
9200:686 Wills, Trusts, and Estates II (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 up to nine credits of School of Law courses into the M.B.A. program. Up to six credits may 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 up to nine credits of School of Law courses into the M.S.M. program. Up to six credits may be in their area of concentration and must be selected from the courses listed below. Three credits of free electives may be chosen from other business-related law courses and must be approved by the director of graduate programs in Business Administration.

Law Courses to be used as MBA Concentration Courses

Choices for Concentration Electives:

Finance (choose 3 credits)

9200:629 Secured Transactions
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
9200:684 Wills, Trusts and Estates I
9200:691 International Investments and Commercial Transactions
College of Health Sciences and Human Services

James M. Lynn, Ph.D., Interim Dean

Organization

The College of Health Sciences and Human Services comprises three schools: the School of Family and Consumer Sciences; the School of Social Work; and the School of Speech-Language Pathology.

The college places a premium on learning by doing. Students work side by side with talented and caring faculty members and professionals throughout the community. The college strives to make life better for individuals and the larger community through excellence in health sciences, human services, and health-related education and research.

Doctor of Audiology Program (Au.D.) (H70200AUD)

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 with half of the classes offered at each university. Students must choose to be admitted to NOAC either through The University of Akron or Kent State University and they will register for courses on the campus where they are admitted. All classes are cross-listed.

Admission Requirements

- Bachelor’s degree from an accredited college or university
- Grade point average of 3.0 or higher
- Three letters of recommendation
- Graduate Record Examination scores
- Personal statement of purpose as to why the applicant wishes to become an audiologist

All application material must be received by February 1.

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:

  7700.701 Basic and Applied Acoustics in Audiology 4
  7700.702 Anatomy and Physiology of the Peripheral Auditory & Vestibular System 3
  7700.703 Acoustic Phonetics 3
  7700.704 Critical Analysis of Research in Audiology 2
  7700.711 Directed Observation in Audiology I 1
  7700.706 Auditory Disorders 2
  7700.707 Anatomy and Physiology Underlying Neuro-Otology 4
  7700.708 Critical Analysis of Research in Audiology II 2
  7700.712 Critical Analysis of Research in Audiology II 2
  7700.732 Directed Observation in Audiology II 1
  7700.709 Audiolologic Assessment 3
  7700.710 Industrial and Community Noise 3
  7700.743 Clerkship I 1
  7700.711 Speech-Language Pathology for the Audiologist 3
  7700.712 Diagnosis of Auditory Disorders 3
  7700.713 Hearing Aid Technology 4
  7700.714 Gerontological Issues in Audiology 3
  7700.744 Clerkship II 1
  7700.715 Central Auditory Processing: Evaluation and Management 3
### 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.

**Admission Requirements**

- Minimum GPA of 2.75 for four years of undergraduate study or 3.00 for the last two years of undergraduate study.
- Completion of general Graduate Record Examination within the five years preceding application, with the following score:
  - 800 combined on verbal and quantitative with at least a 4.5 on analytical writing;
  - 900 combined on verbal and quantitative with at least a 4.0 on analytical writing
- Three letters of recommendation
- Statement of purpose
- Resume

The graduate faculty of the School of Family and Consumer Sciences may require an interview with any applicant.

Application materials must be received by March 1 for fall enrollment and by October 1 for spring enrollment.

Accepted students will be expected to comply with the following requirements:

- Complete the course of study in one of the four options, with a minimum of 40 credits. (Child Life minimum is 42 credits)
- Complete a master’s thesis or a master’s project. The thesis option involves the design and evaluation of original research in an appropriately related area commensurate with the student’s background and area of pursuit. The project option involves the design, development, implementation, and evaluation of original and creative programs and/or resource materials. A written proposal for the thesis or project cannot be submitted until successful completion of the comprehensive examination.
- Apply for advancement to candidacy upon successful completion of 24 credits of graduate study, the written comprehensive examination, and an approved prospectus or proposal for a thesis or project.
- Pass an oral examination covering the thesis or project report.

#### Foundation Courses

- Required by all program options:
  - 7400:604 Orientation to Graduate Studies in Family and Consumer Sciences 3
  - 7400:680 Historical and Conceptual Bases of Family and Consumer Sciences 3
  - 7400:685 Research Methods in Family and Consumer Sciences 3

### Child and Family Development Option (H40110MA)

**Core Courses:**

- 7400:602 Family in LifeSpan Perspective 3
- 7400:605 Developmental Parent-Child Interactions (online) 3
- 7400:607 Family Dynamics 3
- 7400:610 Child Development Theories 3
- 7400:665 Development in Infancy and Early Childhood 3

**Option Electives**

Select 6 credits from the following courses with approval of advisor (if a course has been taken at the undergraduate level, other courses must be selected):

- 7400:501 American Families in Poverty (online) 3
- 7400:504 Middle Childhood and Adolescence 3
- 7400:506 Family Financial Management 3
- 7400:540 Family Crisis 3
- 7400:541 Family Relationships in the Middle and Later Years 3
- 7400:542 Human Sexuality 3
- 7400:546 Culture, Ethnicity, and the Family (online) 3
- 7400:548 Before and After School Child Care 2
- 7400:560 Organization and Supervision of Child Care Centers 3
- 7400:596 Parent Education (online) 3
- 7400:688 Practicum in Family and Consumer Sciences 3

**Cognate Electives**

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

- Thesis or Project (select one):
  - 7400:694 Master’s Project 5
  - 7400:699 Master’s Thesis 5
  - Total 40

### Child Life Option (H40109MA)

**Core Courses:**

- 7400:546 Culture, Ethnicity, and Family (online) 3
- 7400:550 Nutrition Communication and Education or
- 5600:651 Techniques of Counseling 3
- 7400:551 Child in the Hospital 4
- 7400:555 Practicum Experience in a Child Life Program 3
- 7400:584 Hospital Settings, Children, and Families 3
- 7400:552 Children, Illness, and Loss 3
- 7400:595 Child Life Internship 5

**Cognate:**

- 5600:622 Introduction to Play Therapy 3

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

- Thesis or Project (select one):
  - 7400:694 Master’s Project 5
  - 7400:699 Master’s Thesis 5

**Nonthesis (Select nine credits from the following list; two courses must be 600-level):**

- 7400:501 American Families in Poverty (online) 3
- 7400:504 Middle Childhood and Adolescence 3
- 7400:540 Family Crisis 3
- 7400:585 Seminar: FCS (Child Life Topic) 3
- 7400:596 Parent Education (online) 3
- 7400:605 Developmental Parent-Child Interactions (online) 3
- 7400:610 Child Development Theories 3
- 7400:665 Development in Infancy and Early Childhood 3
- 7400:695 Internship: Advanced Programming 5

Total for Master’s Project or Master’s Thesis 42
Total for Nonthesis Option 46

### Clothing, Textiles and Interiors Option (H40104MA)

**Core Courses:**

- 7400:634 Material Culture Studies 3
- 7400:639 Theories of Fashion 3

**Options Electives (select 13 credits with approval of advisor):**

- 7400:518 History of Interior Design I 4
- 7400:519 History of Interior Design II 4
- 7400:523 Professional Image Analysis 3
- 7400:525 Textiles for Apparel 3
- 7400:527 Global Issues in Textiles and Apparel 3
- 7400:536 Textile Conservation 3
- 7400:537 Historic Costume 3
Complete the course of study with a minimum of 40 credits. These credits will comprise:

- Core Courses:
  - 400:575 Analysis of Food
  - 400:576 Developments in Food Science
  - 400:520 Experimental Foods (if taken at the undergraduate level, choose 3 additional credits from option electives)

- Option Electives:
  - Select 9-12 credit hours with the approval of advisor from among the following if a course has been taken at the undergraduate level, other courses must be selected:
    - 3100:500 Food Plants
    - 3250:540 Special Topics: Economics/World Food Problems
    - 400:578 Cultural Dimensions of Food
    - 3600:585 Seminar in Family and Consumer Sciences (Food Science topic)
    - 400:570 The Food Industry: Analysis and Field Study
    - 400:533 Advanced Food Preparation
    - 400:524 Nutrition in the Life Cycle
    - 400:624 Advanced Human Nutrition I
    - 400:625 Advanced Human Nutrition II
    - 3600:688 Practicum in Family and Consumer Sciences

- Cognate Electives:
  - Select 5-8 credits with the approval of advisor from the School of Family and Consumer Sciences OR from a cognate area outside the School OR from a combination of the two.

- Thesis or Project (select one):
  - 700:694 Master’s Project
  - 700:699 Master’s Thesis

Total 40

**Nutrition and Dietetics (H40103MSN)***

A program of study is offered leading to the Master of Science in Nutrition and Dietetics. Students must meet the following admission requirements for acceptance in the program:

- Meet the minimum GPA of 2.75 for four years of undergraduate study or 3.00 for the last two years of undergraduate study.
- Completion of general Graduate Record Examination within the five years preceding application, with the following score:
  - 800 combined on verbal and quantitative with at least a 4.5 on analytical writing; OR
  - 900 combined on verbal and quantitative with at least a 4.0 on analytical writing
- Three letters of recommendation
- Statement of purpose
- Resume

The graduate faculty of the School of Family and Consumer Sciences may require an interview with any applicant. Application materials must be received by March 1 for fall enrollment and by October 1 for spring enrollment. 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 19 credits of graduate work.
- Apply for advancement to candidacy upon successful completion of 24 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:
  - 700:654 Orientation to Graduate Studies in Family and Consumer Sciences
  - 700:680 Historical and Conceptual Bases of Family and Consumer Sciences
  - 700:685 Research Methods in Family and Consumer Sciences

- Core Courses:
  - 700:624 Advanced Human Nutrition I
  - 700:625 Advanced Human Nutrition II

**Electives** (9 to 12 credits required)

Select from 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.

- 3100:565 Cardiac Physiology
- 3150:501 Biochemistry Lecture I
- 3150:502 Biochemistry Lecture II
- 400:524 Nutrition in the Life Cycle
- 400:580 Community Nutrition I - Lecture
- 400:582 Community Nutrition II - Lecture
- 700:587 Sports Nutrition
- 700:588 Practicum in Dietetics
- 8200:561 Advanced Physiological Concepts in Health Care I
- 8200:562 Advanced Physiological Concepts in Health Care II
- 8200:608 Pathophysiology Concepts of Nursing Care
- 8200:612 Advanced Clinical Pharmacology

**Cognate Electives** (9 to 11 credits required)

Select from the approval of advisor from among the following or other courses that strengthen the student’s goals.

- 3470:684 Statistics for the Health Sciences
- 3850:678 Social Gerontology
- 5600:651 Techniques of Counseling
- 6500:600 Management and Organizational Behavior
- 700:528 Nutrition in Medical Sciences II
- 700:543 Nutrition Assessment
- 700:513 Food System Management I
- 700:514 Food System Management II Clinical
- 700:500 Nutrition Communication and Education Skills

Total 40

**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 (H70000MA)**

**Admission Requirements - Speech-Language Pathology**

- Hold an undergraduate major in speech-language pathology or completed post-baccalaureate in speech-language pathology
- 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**

**Participation in group interview (for invited students only)**

**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 10.

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**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
  - 7700:551 Organization and Administration: Public School Speech-Language and Hearing Programs
  - 7700:590 Workshop
  - 7700:585 Developmental Disabilities
  - 7700:611 Research Methods in Communicative Disorders I
  - 7700:620 Articulation
  - 7700:623 Support Systems for Indiv and Families with Communicative Disorders
  - 7700:624 Neurogenic Speech and Language Disorders
  - 7700:630 Voice and Cleft Palate
  - 7700:627 Stuttering: Theories and Therapies
  - 7700:628 Topics in Differential Diagnosis of Speech and Language Disorders
  - 7700:630 Clinical Issues in Child Language
  - 7700:631 Acquired Brain Injury
  - 7700:632 Dysphagia
  - 7700:633 Professional Issues
  - 7700:639 Audiology for the Speech-Language Pathologist
  - 7700:650 Advanced Clinical Practicum: Speech-Language Pathology (three registrations)
  - 7700:695 Externship: Speech Pathology and Audiology (two registrations) 6 each
  - 7700:696 Externship Seminar (two registrations) 1 each

Completion of 5610:693 School-Based Externship: Speech-Language Pathology and 5610:691 School-Based Externship 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.

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**Social Work**

(H75000MSW)

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 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 an immediate supervisor, if employed).
- A completed Application Checklist.
- Preferred Program Format Form.

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 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.

The Advanced Standing option is an accelerated track of the MSW program that is completed in 11 months. Enrollment for the Advanced Standing is highly competitive, and limited to applicants who have excelled in all elements of an undergraduate social work program accredited by the Council on Social Work Education. It begins in June with a six-credit ten-week seminar followed by the micro or macro concentration year.

Students should indicate their preference for Advanced Standing in their application to the MSW program. The requirements for Advanced Standing include:

- A baccalaureate degree in social work completed within the last five years from a program accredited by the Council on Social Work Education.

- A minimum overall GPA of 3.0 and a minimum GPA in social work courses of 3.5 on a 4.0 scale;

- Demonstration of superior performance in field practicum as evidenced by submission of a final undergraduate field evaluation;

- For students graduating in May, acceptance will be contingent upon receipt of a final transcript and proof of BSW degree.

Applicants not accepted into Advanced Standing placement will be notified in writing of their option to enter the pool for admission into the full-time or part-time programs.

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 3

- **Spring Semester**
  - 7750:602 Foundation Field Practicum 3
  - 7750:606 Social Work Practice with Large Systems 3
  - 7750:647 Social Work Practice with Large Systems 3
  - 7750:663 Fundamentals of Research II 3
  - 7750:632 Human Behavior and Social Environment: Large Systems 3

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

- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:607 Advanced Practice with Small Systems I 3
  - 7750:611 Dynamics of Racism and Discrimination 3
  - 7750:663 Psychopathology and Social Work 3

- **Spring Semester**
  - 7750:604 Advanced Field Practicum 3
  - 7750:608 Advanced Practice with Small Systems II 3
  - 7750:601 Foundation Field Practicum 3
  - 7750:622 Fundamentals of Research I 3
  - 7750:631 Human Behavior and Social Environment: Small Social Systems 3

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

- **Fall Semester**
  - 7750:603 Advanced Field Practicum 3
  - 7750:611 Dynamics of Racism and Discrimination 3
  - 7750:663 Psychopathology and Social Work 3

- **Spring Semester**
  - 7750:604 Advanced Field Practicum 3
  - 7750:611 Dynamics of Racism and Discrimination 3
  - 7750:663 Psychopathology and Social Work 3

#### Part-Time Program

#### Professional Foundation:

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

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

- **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
  - 7750:663 Psychopathology and Social Work 3

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

- **Fall Semester (Fourth Year)**
  - 7750:603 Advanced Field Practicum 3
  - 7750:607 Advanced Practice with Small Systems I 3

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

#### Concentrations (Macro Practice):

- **Fall Semester (Third Year)**
  - 7750:671 Social Work Administration 3

- **Spring Semester (Third Year)**
  - 7750:672 Community Organization and Planning 3

- **Fall Semester (Fourth Year)**
  - 7750:673 Strategies of Community Organization 3

- **Spring Semester (Fourth Year)**
  - 7750:674 Community, Economic Systems and Social Policy Analysis 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
  - 7750:663 Psychopathology and Social Work 3
  - 7750:607 Advanced Practice with Small Systems I 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

#### 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

- **Spring Semester**
  - 7750:671 Social Work Administration 3
  - 7750:673 Strategies of Community Organization 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 3
- 7750:646 Social Work Policy 3
- 7750:622 Fundamentals of Research I 3

Students wishing to test out of one or more of the above courses must notify the MSW Program Director at least three weeks prior to the start of the semester in which the course is normally taught. The proficiency exam must be taken prior to classes starting in that semester. There are no fees or penalties associated with taking these exams, however, each exam may be taken only once.

Additional information about the MSW Program may be obtained from the School of Social Work.
College of Creative and Professional Arts

Dudley B. Turner, Ph.D., Interim Dean

Organization

Offering undergraduate and graduate degrees, The University of Akron's College of Creative and Professional Arts includes four schools: Myers School of Art, School of Communication, School of Dance, Theatre, and School of Music. In addition, the College includes E.J. Thomas Performing Arts Hall, the region's flagship performance venue.

The College places a premium on learning by doing. Students study side-by-side with talented and caring faculty members who are committed to helping them turn their aspirations into accomplishments. More information about the College of Creative and Professional Arts can be found at http://www.uakron.edu/artscollege.

Points of Excellence:

- Graduate students learn how to manage nonprofit arts organizations while enrolled in the UA Arts Administration Program, one of fewer than 30 such programs nationwide. The program draws students from around the world and has an outstanding placement record for interns and alumni.

- The UA School of Communication provides invaluable hands-on experience for students through an internship program, service learning projects in the community, well-equipped media and computer laboratories, and student-operated WKRJ-FM and WTV.

- The Modular Master's Program in Theatre enables students to earn an M.A. degree in theatre or obtain K-12 licensure in theatre in three highly intensive five-week sessions over three summers. The program is designed for highly motivated elementary, middle school, and high school teachers and others interested in deepening their theatre experience and professional opportunities.

- The School of Music offers graduate programs in performance and music education. An impressive 100 percent placement rate has been achieved consistently over the years by music education graduates who choose to teach. In recent years students in the School of Music have had the opportunity to work and perform with guest artists in residence such as Grammy and Oscar award-winning singer-songwriter Randy Newman, composer Marvin Hamlisch, Boston Pops conductor Keith Lockhart, jazz trumpeter Wynton Marsalis, and singer Maureen McGovern.

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.

Admission Requirements

- Students must have earned an undergraduate baccalaureate degree in music or the equivalent as determined by the department.

- The Graduate School's requirements for admission.

- Three letters of recommendation.

- 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.

- Applicants of composition, theory, and history options must pass departmental diagnostic exams in their area of study.

- The composition option requires the presentation of a portfolio of original compositions to the area coordinator. The theory and history options require presentation of a document showing evidence of scholarly writing.

- The options in music education, music theory, and music history and literature require an interview with faculty in the appropriate area.

Applications are accepted on a rolling basis.

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

(C50003MM)

- Music core courses – eight credits (to be selected):
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:619 Theory and Pedagogy 2

- Major required courses – 21-23 credits:
  - 7500:601 Choral Literature 2
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:624 Music History Survey: Music Since 1800 2
  - 7500:647 Master’s Chamber Recital 1
  - 7500:699 Master’s Thesis/Project 46

- Additional music courses – zero to two credits.

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

- Electives – three credits.

To be selected by student and advisor, Areas include graduate-level courses in other disciplines, such as theatre arts, in which the student obtains permission of instructor, or 7520:642 Applied Composition.

Degree total: 34-36 credits.

Music Education Option

(C50016MM: Thesis Option)
(C50006MM: Nonthesis 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 46

- Additional music/education courses – select 17-19 credits with approval of music education and graduate advisors. Choices may include the following:
  - 7500:675 Seminar in Music Education 9
  - 7500:697 Advanced Problems in Music Education 4
  - 7500:590 Music Workshops 6
  - 7520:5— Applied Music 8
  - 7520:6— Ensemble 2
  - 7520:5— Other music classes 8
  - 5105:5— Educational Foundations and Leadership 4
  - 5170:5— General Administration 4
  - 55— 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 of music education and graduate advisors. Choices may include the following:
  - 7500:675 Seminar in Music Education 9
  - 7500:697 Advanced Problems in Music Education 4
  - 7500:590 Music Workshops 6
  - 7520:5— Applied Music 8
  - 7520:6— Ensemble 2
  - 7520:5— Other music classes 8
  - 5105:5— Educational Foundations and Leadership 4
  - 5170:5— General Administration 4
  - 55— Curricular and Instructional Studies 4
  - 5500:780 Seminar in Curricular and Instructional Studies 4

Music Education: Instrumental Option

(C50017MM: Thesis Option)
(C50010MM: Nonthesis 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

- Additional music/education courses – must be related to instrumental music education
  - 7500:699 Master’s Thesis/Project 46

Graduate Studies
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500:675</td>
<td>Seminar in Music Education</td>
<td>9</td>
</tr>
<tr>
<td>7500:697</td>
<td>Advanced Problems in Music Education</td>
<td>4</td>
</tr>
<tr>
<td>7500:590</td>
<td>Music Workshops</td>
<td>6</td>
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<tr>
<td>7520:5—6—</td>
<td>Applied Music</td>
<td>8</td>
</tr>
<tr>
<td>7510:5—6—</td>
<td>Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>5100:5—6—</td>
<td>Other music courses</td>
<td>8</td>
</tr>
<tr>
<td>5170:5—6—</td>
<td>Educational Foundations and Leadership</td>
<td>4</td>
</tr>
<tr>
<td>55—5—6—</td>
<td>Curricular and Instruction Studies</td>
<td>4</td>
</tr>
<tr>
<td>5500:780</td>
<td>Seminar in Curricular and Instructional Studies</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**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 music education and graduate advisors. A minimum of 22 credits must be related to instrumental music education. Choices may include the following:**

- 7500:675 Seminar in Music Education 9
- 7500:697 Advanced Problems in Music Education 4
- 7500:590 Music Workshops 6
- 7520:5—6— Applied Music 8
- 7510:5—6— Ensemble 2
- 5100:5—6— Other music courses 8
- 5170:5—6— Educational Foundations and Leadership 4
- 55—5—6— Curricular and Instructional Studies 4
- 5500:780 Seminar in Curricular and Instructional Studies 1-3

**Music Education: Choral/General Music Option (C50019MM: Thesis Option) (C50018MM: Nonthesis Option)**

**Thesis Option – 32 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
- 7500:698 Graduate Recital (to be completed in a minimum of two performance media) 2

**Major required courses – 20-22 credits:**

- 7500:551 Introduction to Musicology 2
- 7500:621 Music History Survey: Middle Ages and Renaissance 2
- 7500:622 Music History Survey: Baroque 2
- 7500:623 Music History Survey: Classic and Romantic 2
- 7500:624 Music History Survey: Music Since 1900 2
- 7500:625 Graduate Bibliography and Research in Music 2
- 7500:697 Advanced Problems in Music 4
- 7500:699 Master’s Thesis/Project 4-6

**Non-Thesis Option – 34 credits**

- 7500:675 Seminar in Music Education 9
- 7500:697 Advanced Problems in Music Education 4
- 7500:590 Music Workshops 6
- 7520:5—6— Applied Music 8
- 7510:5—6— Ensemble 2
- 5100:5—6— Other music courses 8
- 5170:5—6— Educational Foundations and Leadership 4
- 55—5—6— Curricular and Instructional Studies 4
- 5500:780 Seminar in Curricular and Instructional Studies 1-3

**Music History and Literature Option (C50004MM)**

**Music core courses – eight credits (to be selected):**

- 7500:556 Advanced Conducting: Instrumental 2

- 7500:561 Advanced Conducting: Choral 2
- 7500:566 Musical Styles and Analysis I 2
- 7500:651 Musical Styles and Analysis II 2
- 7500:652 Musical Styles and Analysis III 2
- 7500:671 Music History Survey: Middle Ages and Renaissance 2
- 7500:672 Music History Survey: Baroque 2
- 7500:673 Music History Survey: Classic and Romantic 2
- 7500:674 Music History Survey: Music Since 1900 2

**Electives – 2 credits. To be selected by the student and advisor. Areas include graduate-level courses in other disciplines in which student obtains permission of instructor.**

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

**Music Technology Option (C50205MM)**

The Master of Music, Music Technology Option is designed to give the student additional exposure to the functional areas of music plus an advanced concentration in music technology and related business. The program provides a framework of conceptual, technical and professional knowledge which will assist the student in career opportunities of fields related to music technology. Students will leave the program with a portfolio of tutorials, recorded works, and/or computer software.

**Music core courses – six credits (to be selected):**

- 7500:556 Advanced Conducting: Instrumental 2
- 7500:566 Musical Styles and Analysis I 2
- 7500:571 Musical Styles and Analysis II 2
- 7500:652 Musical Styles and Analysis III 2
- 7500:671 Music History Survey: Middle Ages and Renaissance 2
- 7500:672 Music History Survey: Baroque 2
- 7500:673 Music History Survey: Classic and Romantic 2
- 7500:674 Music 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
- 7500:633 Teaching and Literature: Piano and Harpsichord 2
- 7500:653 Electronic Music 3
- 7500:659 Master’s Thesis/Project 4
- 7510:6— Ensemble (participation in two ensembles) 2
- 7500:652 Composition (electronic music) 4
- 7500:697 Advanced Problems in Music 4
- 7500:699 Master’s Thesis/Project 4-6

**Non-Thesis Option – 34 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
- 7500:675 Seminar in Music Education 9
- 7500:697 Advanced Problems in Music Education 4
- 7500:590 Music Workshops 6
- 7520:5—6— Applied Music 8
- 7510:5—6— Ensemble 2
- 5100:5—6— Other music courses 8
- 5170:5—6— Educational Foundations and Leadership 4
- 55—5—6— Curricular and Instructional Studies 4
- 5500:780 Seminar in Curricular and Instructional Studies 1-3

**Music core courses – eight credits (to be selected):**

- 7500:556 Advanced Conducting: Instrumental 2

**Performance Option in Accompanying (C50008MM)**

**Music core courses – Eight credits (to be selected):**

- 7500:556 Advanced Conducting: Instrumental 2
- 7500:566 Musical Styles and Analysis I 2
- 7500:652 Musical Styles and Analysis III 2
- 7500:671 Music History Survey: Middle Ages and Renaissance 2
- 7500:672 Music History Survey: Baroque 2
- 7500:673 Music History Survey: Classic and Romantic 2
- 7500:674 Music 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
- 7500:640 Advanced Accompanying I 1
- 7500:641 Advanced Accompanying II 1
- 7500:642 Advanced Accompanying III 1
- 7500:643 Advanced Accompanying IV 1
- 7500:666 Advanced Song Literature I 2
- 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
**Performance Option in Winds, String, Percussion**  
(C50102MM: Strings Performance)  
(C50103MM: Woodwinds Performance)  
(C50108MM: Brass Performance)

- **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 ll (Baroque through Early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:621 Music History Survey: Middle Ages and Renaissance 2
  - 7500:622 Music History Survey: Baroque 2
  - 7500:623 Music History Survey: Classic and Romantic 2
  - 7500:624 Music History Survey: Music Since 1900 2

- **Major required courses – 16-18 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7510:6—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
  - 7500:632 Teaching and Literature: Percussion Instruments 2
  - 7500:634 Teaching and Literature: String Instruments 2
  - 7500:698 Graduate Recital 2

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

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

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

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**Performance Option in Voice**  
(C50105MM)

- **Music core courses: 8 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 ll (Baroque through Early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:621 Music History Survey: Middle Ages and Renaissance 2
  - 7500:622 Music History Survey: Baroque 2
  - 7500:623 Music History Survey: Classic and Romantic 2
  - 7500:624 Music History Survey: Music Since 1900 2

- **Major required courses – 20-22 credits:**
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:665 Vocal Pedagogy 2
  - 7500:666 Advanced Song Literature I 2
  - 7500:667 Advanced Song Literature ll 2
  - 7500:698 Graduate Recital 2

- **Electives (3 credits)**
  - Areas may include graduate-level courses in other disciplines, with permission of instructor, or additional music courses other than ensembles.

**Degree total: 36 credits.**

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**Performance Option in Keyboard**  
(C50100MM: Piano Performance)  
(C50104MM: Organ Performance)

- **Music core courses: eight credits (to be selected):**
  - 7550:562 Repertoire and Pedagogy: Organ 3
  - 7500:563 Teaching and Literature: Piano and Harpsichord 2
  - 7500:564 Advanced Problems in Music 2
  - 7500:565 Advanced Conducting: Choral 2
  - 7500:566 Advanced Conducting: Instrumental 2
  - 7500:567 Advanced Conducting: Orchestral 2
  - 7500:568 Advanced Conducting: Jazz 2
  - 7500:569 Advanced Conducting: Ethnic 2

- **Major required courses – 18-21 credits:**
  - 7500:561 Musical Styles and Analysis IV (20th Century) 2
  - 7500:562 Repertoire and Pedagogy: Organ 3
  - 7500:563 Teaching and Literature: Piano and Harpsichord 2
  - 7500:564 Advanced Problems in Music 2
  - 7500:565 Advanced Conducting: Choral 2
  - 7500:566 Advanced Conducting: Instrumental 2
  - 7500:567 Advanced Conducting: Orchestral 2
  - 7500:568 Advanced Conducting: Jazz 2
  - 7500:569 Advanced Conducting: Ethnic 2

- **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.

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

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**Performance Option: Choral Conducting**  
(C50110MM)

- **Music Core Courses (8 credits)**
  - 7500:615 Musical Styles and Analysis I 2
  - 7500:616 Musical Styles and Analysis II 2
  - 7500:617 Musical Styles and Analysis III 2
  - 7500:621 Music History Survey: Middle Ages and Renaissance 2
  - 7500:622 Music History Survey: Baroque 2
  - 7500:623 Music History Survey: Classic and Romantic 2
  - 7500:624 Music History Survey: Music Since 1900 2

- **Major Required Courses (24 credits)**
  - 7500:555 Advanced Choral Conducting 2
  - 7500:570 Studies in Choral Literature I (Medieval/Renaissance) 2
  - 7500:571 Studies in Choral Literature II (Baroque) 2
  - 7500:572 Studies in Choral Literature III (Classic/Romantic) 2
  - 7500:573 Studies in Choral Literature IV (20th Century) 2
  - 7500:675 Seminar in Music Education: Group Vocal Techniques 2
  - 7500:697 Advanced Problems in Music (Choral Conducting) 4
  - 7500:698 Graduate Recital 2
  - 7510:620—Ensemble* 2
  - 7520:524 Applied Music 4

- **Electives (3 credits)**
  - Areas may include graduate-level courses in other disciplines, with permission of the instructor, or additional music courses other than ensembles.

**Total credits: 36**

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*Two semesters ensemble participation required for degrees completed in two semesters. Four semesters ensemble participation required for degrees completed in four semesters.*
Complete 36 credits, distributed as follows:

**Program Requirements**

- **Major Required Courses (29 credits)**
  - 7500:655 Advanced Conducting: Instrumental 2
  - 7500:630 Teaching and Literature: Brass Instruments 2
  - 7500:631 Teaching and Literature: Woodwind Instruments 2
  - 7500:632 Teaching and Literature: Percussion Instruments 2
  - 7500:634 Teaching and Literature: String Instruments 2
  - 7500:675 Graduate Seminar: Instrumental Arranging 3
  - 7500:698 Graduate Recital (Conducting) 2
  - 7510:620-21 Orchestras* 4
  - 7520:6xx Applied Music (required) 8
  - Total credits 37

*Participation in Orchestra required for all semesters in residence. The applicant must successfully pass an interview and audition with the orchestra conducting faculty member and an audition on his/her particular applied instrument.

**Theory Option (C50009MM)**

- **Music core courses – six credits (to be selected):**
  - 7500:553 Bibliography and Research 2
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:621 Music History Survey: Middle Ages and Renaissance 2
  - 7500:622 Music History Survey: Baroque 2
  - 7500:623 Music History Survey: Classic and Romantic 2
  - 7500:624 Music History Survey: Music Since 1800 2

- **Major required courses – 26-28 credits:**
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:619 Theory and Pedagogy 2
  - 7500:697 Advanced Problems in Music 2
  - 7500:699 Master’s Thesis/Project 4-6
  - 7510:6— Ensemble participation in two ensembles required** 2
  - 7520:642 Applied Composition 2

- **Additional music courses – zero to two credits.**

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

- **Electives – zero to two credits.**

To be selected by student and advisor. Areas include graduate-level courses in other disciplines in which student obtains permission of instructor or 7520:642 Applied Composition.

Degree total: 34-36 credits.

**Communication (C60004MA)**

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

**Admission Requirements**

- Meet the general requirements for admission to the Graduate School.
- Essay of no more than 500 words outlining reasons for choosing graduate program in Communication at The University of Akron.
- 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 3
    - 7600:602 Qualitative Methods in Communication 3
  - 7600:603 Quantitative Methods in Communication 3
  - 7600:624 Survey of Communication Theory 3
  - 7600:625 Theories of Mass Communication 3
  - 7600:670 Communication Criticism 3
  - School coursework – 9 credits.
  - Graduate electives – 6 credits.

Thesis (699) or Project/Production (698) – 6 credits.

Total – 36 credits.

- Comprehensive examination required for students not pursuing a thesis, project, or production after 24 credits of coursework, including all core courses.
- Advancement to candidacy. Registration for six (6) credits of Thesis (699) or Project/Production (698).
- Presentation and defense of a thesis/project/production: The thesis, project, or production requirement is designed to be the culmination of the student’s academic program and involves the conceptualization, design and execution of an academic, practical, or aesthetic problem in a manner which requires a high level of substantive, methodological, technical, and written skills. These skills may be demonstrated in any of the three types of activities, depending on the student’s background and career orientation.

**Theatre Arts**

The School of Dance, Theatre, and Arts Administration offers a master of arts degree.

**Admission Requirements**

- 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.
- Statement of purpose (no more than 300 words) summarizing background and outlining career goals.

All application materials must be received by March 15 for fall enrollment.

**Arts Administration Option (C80006MA)**

- Complete a minimum of 45 credits.
- Required theatre arts courses (30-33) credits:
  - 7800:600 Research and Writing Techniques 3
  - 7800:605 Colloquium in the Arts 3
  - 7800:665 Audience Development 3
  - 7800:666 Principles of Arts Management 3
  - 7800:682 Fund Raising and Grantsmanship in the Arts 3
  - 7800:691 Arts Administration Practices and Policies 3
  - 7800:692 Legal Aspects of Arts Administration 3
  - 7800:698 Internship 3-6
  - 7800:699 Master’s Thesis 6

- Required business courses (9 credits):
  - 6000:590 Special Topics in Accounting 3
  - 6000:600 Management and Organizational Behavior 3
  - 6000:600 Marketing Concepts or 3
  - 6600:630 Marketing of Services 3

- Electives in related fields (3-6 credits):

Options here include course work in business, computer science, urban studies, art, music, law, theatre and dance.

- Complete an oral defense of the thesis.
- General electives 0-3

**Theatre Option (C80002MA)**

(Summer program)

Complete a minimum of 36 credits distributed as follows:

- School core courses - 24 credits:
  - 7800:600 Research and Writing Techniques 3
  - 7800:641 Problems in Directing 3
  - 7800:645 Seminar in Dramatic Literature 3
  - 7800:646 Graduate Acting Techniques 3
  - 7800:658 History of Theatre 3
  - 7800:662 Seminar in Scenic Design 3
  - 7800:699 Master’s Thesis 6

- Graduate electives:
  - 12 credits to be selected from Theatre Arts, English, Communication, Music, etc., in consultation with the student’s advisor or the graduate program coordinator.
College of Nursing

N. Margaret Vineman, Ph.D., R.N., CNS, Dean
Diana L. Biordi, Ph.D., R.N.,F.A.A.N., Associate Dean, Research and Graduate Programs
Marlene Huff, Ph.D., R.N., Coordinator, Progression and Graduate Programs
Kathleen Ross-Alaolmolki, Ph.D., R.N., Associate Dean, Undergraduate Nursing Programs and Innovation
Annette Mitzel, M.S.N., R.N., Director, Nursing Center for Community Health

http://www.uakron.edu/nursing/

Mission Statement
As an integral part of The University of Akron, the College of Nursing promotes the general mission of The University of Akron. The college offers diverse and comprehensive nursing education programs at the undergraduate and graduate levels. The programs of study, based on professional standards, prepare individuals to provide nursing care in a variety of settings. The College of Nursing supports nursing research that contributes to the health and well-being of society. The college is committed to serving culturally, socially, and ethnically diverse populations. Through academic and community collaboration, the college promotes excellence in nursing education, research, practice, and service.

Goals
• Prepare generalist and advanced practice nurses who are eligible for initial licensure and for certification.
• Prepare scholars in nursing at the doctoral level, focusing on the conduct of nursing research and the dissemination of research findings with their implications for nursing practice and health care policy.
• Provide a foundation for lifelong commitment to professional development and scholarship through continuing education and advanced study at the master’s and doctoral levels.
• Prepare nurses who are sensitive in caring for diverse populations in a variety of settings.
• Prepare professional practitioners who integrate leadership roles and ethical standards in a continuously changing health care arena and society.

Philosophy
The College of Nursing faculty believe that the foci of professional nursing are individuals, families and communities. The Individual is seen as a complex whole whose existence involves patterns, dynamic change, transformation and interdependence. The individual interrelates within the environment in biological, psychological, social, spiritual, cultural and other dimensions. The individual is unique and universal. The individual is a thinking, feeling, interacting, evolving, creating, valuing being. Families are individuals dynamically connected with each other over time in traditional and nontraditional family configurations. Communities are groups of people with one or more common characteristics who are in relationship to one another and may or may not interact. Health is comparative, dynamic, multidimensional and has personal meaning. It includes disease, nondisease and quality of life. People have the right to participate in decisions affecting and effecting personal health. Environment includes all living and nonliving dimensions with which the individual, family and community have interrelationships. The dynamic environmental interrelations define and establish rules for health and modes of action. Nursing is an art and a science. The discipline of nursing is concerned with individual, family and community and their responses to health within the context of the changing health care environment. Professional nursing includes the appraisal and the enhancement of health. Personal meanings of health are understood in the nursing situation within the context of familial, societal and cultural meanings. The professional nurse uses knowledge from theories and research in nursing and other disciplines in providing nursing care. The role of the nurse involves the exercise of social, cultural, and political responsibilities, including accountability for professional actions, provision of quality nursing care, and community involvement. Education is an individualized, life-long process. Learning includes the individual’s interrelations with the environment, knowledge and skill acquisition, development of critical thinking, and self-awareness. Self-expression enables the student to respond to clients who have unique human values and cultural heritage. Each nursing student brings attitudes, beliefs, values, feelings, knowledge and experience into the learning environment. These variables influence learning that occurs through continual construction and reconstruction of experience in relation to environmental influences.

Nursing education at the baccalaureate level synthesizes knowledge from nursing, humanities, social, cultural, physical and natural sciences to operationalize clinical decision-making. The student is prepared to function as nurse generalist in a variety of settings. Faculty and student continually seek to refine the commitment to and understanding of the relationship between theory and practice. Students are encouraged to become self-directed, collaborative, interdependent and independent. These variables are the foundation for life-long learning and professional development.

Nursing education at the master’s level builds upon baccalaureate nursing education and provides a foundation for doctoral study. Graduate education at this level prepares advanced practice nurses with expertise in critical thinking and decision making, effective communication, and therapeutic interventions. Through a variety of learning experiences, master of science in nursing students analyze and use theoretical formulations and research findings in advanced practice.

Nursing education at the doctoral level prepares nurses for full participation in the discipline as scholars and researchers. Emphasis is placed on the development of nurses who are informed about the many dimensions of scholarship, including research, practice and teaching, and the integration of the three. Through various didactic, collaborative and research opportunities, doctoral students learn how to develop and test knowledge about health, illness and nursing care, and how to use this knowledge to enhance teaching, improve patient care, and influence health care policy.

JOINT PROGRAM FOR THE DOCTOR OF PHILOSOPHY IN NURSING

Kent State University and The University of Akron offer the Joint Ph.D. in Nursing (JPDN), a single doctoral program with a single, unified doctoral nursing faculty and doctoral student body. Students may choose which university will grant their degree. The diploma will be issued from the student’s university of record and will recognize the Joint Doctor of Philosophy program. JPDN courses will be cross listed and scheduled at each university.

Program Purpose and Description: Preparation of Scholars in Nursing

The JPDN program is characterized by excellence through scholarship, integrity, and caring. The primary purpose of the JPDN is to produce nurse scholars. This purpose will be realized through: the development and testing of theories and models of nursing science and nursing practice, the consideration of the social, political, legal, and economic implications of health care policies and practices, and the dissemination of knowledge. Graduates will be characterized by their leadership and their ability to conduct and apply research, to integrate and extend knowledge through teaching, and to develop and implement health care policy. Interdisciplinary collaboration and community outreach will be emphasized throughout the program.

Admission, Progression, and Graduation

Students may apply to the joint program through the Graduate Colleges or the Colleges of Nursing at either Kent State University or The University of Akron. Completed applications should be returned to the addresses indicated on the application forms. Applications are accepted on a rolling basis and will be reviewed by the JPDN admissions committee with a single set of JPDN admission criteria.

Each applicant for admission into the Ph.D. in Nursing Program must meet the following criteria:
• Evidence of successful completion of a master’s degree in nursing at an accredited program with a minimum graduate grade point average of 3.0 on a 4.0 scale.
• Evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
• Official evidence of scores on the Graduate Record Examination.
• A clear and succinct statement about the applicant’s need for the doctorate and its application toward clearly defined career goals.
• A sample of written work that indicates the logic and writing skills of the applicant, for example, by an essay, term paper, thesis, published article, or professional report.
• Three (3) letters of reference from professionals or professors who can adequately evaluate the applicant and the applicant’s previous work or potential for success.
• At the request of the JPDN admission committee, successfully complete a personal interview with a graduate faculty member 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 com-
petence in English, minimum score of 850 on the Test of English as a Foreign
Language (TOEFL). International students must comply with university procedures
for accepting international students.

Students will be assigned an academic advisor based on mentoring and mutual
research interests. Advisor and student will develop an academic program plan cus-
tomized to student interest, subject to advisor approval. Target dates for success-
fully completing the qualifying examination and the completion of the dissertation
will be developed early in the program plan. Students may change advisors for aca-
demic or dissertation purposes, subject to the approval of the JPDN directors.

For progression and graduation, students must meet the following degree require-
ments:
• 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 written preliminary examination after first year of full-
time coursework and/or 24 credits, qualifying examination, and dissertation
requirements;
• successfully complete and orally defend a dissertation based upon original inves-
tigation 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 stu-
dent interests. The nursing knowledge component examines knowledge and the-
ory 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. Stu-
dents must select at least one advanced research methods course to promote their
research agenda: i.e., program evaluation, advanced qualitative or quantitative meth-
ods, or grantmanship. Cognates will be chosen from courses outside nursing
which support the student’s research interest. Health care policy courses focus on
health care and nursing issues. These four components culminate into the fifth com-
ponent, the dissertation, which follows the successful completion of the qualify-
ing examination. The course work in each of these five components follows.

Structure and content of nursing knowledge:

Five required courses (15 credits)
8200:810 History and Philosophy of Nursing Science
8200:815 Theory Construction and Development in Nursing
8200:820 Introduction to Nursing Knowledge Domains
8200:840 Nursing Science Seminar I
8200:850 Nursing Science Seminar II

Research methods, designs, and statistics:

Four required methods/design courses (12 credits)
8200:824 Foundations of Scholarly Inquiry in Nursing
8200:825 Quantitative Research Methods
8200:830 Qualitative Research Methods
8200:845 Advanced Methods for Research
(1 advanced nursing research methods course selected with the approval
to the student’s academic adviser.)

Two required statistics courses (6 credits)
8200:827 Advanced Health Care Statistics I
8200:837 Advanced Health Care Statistics II

Cognates:

Three required courses (8 credits)
Cognates
(Two courses are selected with the approval of the student’s academic
advisor from a discipline outside of nursing to support the student’s
research interest.)

Electives:

8200:892 Field Experience in Nursing
8200:895 Special Topics in Nursing
8200:896 Individual Investigation in Nursing
8200:898 Research in Nursing

Health Care and nursing policy:

One required course (3 credits)
8200:835 Nursing and Health Care Policy

Doctoral dissertation

30 credit hours required
8200:899 Doctoral Dissertation

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

Qualifying for Candidacy for the Doctoral Dissertation

• All students in the JPDN Program are required to successfully complete a qual-
fying examination before proceeding to conduct dissertation research. To be eli-
ble 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 demon-
stration of mature scholarship and critical judgment in the theoretical and method-
ological approaches to development of nursing knowledge. The dissertation is
expected to be the first step in the development of a program of research and
scholarly activity. A minimum of 30 dissertation credit hours are required.

• Oral defense. When the dissertation is completed a meeting will be scheduled
for the student’s defense of the dissertation. The candidate is expected to
respond to substantive and methodological questions related to the dissertation.

• Dissertation committee. A four person doctoral dissertation committee will guide
and approve the acceptability of the dissertation. The Chair must be a member of
the JPDN faculty, as must be two committee members. The remaining mem-
ber must be selected from outside the program. Other qualifications of mem-
bers will be consistent with the student’s area of research and with the
requirements for doctoral committees as stated in the policies and general cat-
alogs of both universities.

Innovative Curriculum Pathways to the Joint Ph.D.
In Nursing Program for BSN Graduates and for
Students Enrolled in MSN Option

The Innovative Pathways into the Joint Ph.D. in Nursing Program (JPDN) is an accel-
erated 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 acceler-

The University of Akron 2010-2011
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.

Internship: Students entering directly from the BSN program will be required to complete two 10-week internships with the Co-op program (paid positions).

MSN-Option Students:

- Enrollment in The University of Akron RN-option program.
- Minimum grade point average of 3.0 on a 4.0 scale for all previous coursework.
- Provide evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Provide evidence of current malpractice insurance.
- Provide evidence of acceptable scores on the Graduate Record Examination.
- Submit a statement about nursing career interest and goals.
- Give a sample of written work. This may include, for example, a scientific term paper, a research paper, an honor’s project, a professional report, or a published article.
- Submit three (3) letters of recommendation from professors or other professionals who can adequately evaluate previous work and potential for success in the Ph.D. program. One of the three letters must be from a Doctoral Faculty Council member who has worked closely with the student.
- Satisfactorily complete a personal interview with a Doctoral Faculty Council member.
- Register for full-time study during the fall semester after acceptance into the Ph.D. program, or otherwise the acceptance is void.

Students enrolled in The University of Akron RN-Option receive a maximum or 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.

MASTER OF SCIENCE IN NURSING
http://www.uakron.edu/nursing/academic-programs/

Accreditation
The master’s degree programs are fully accredited by the Commission on Collegiate Nursing Education (CCNE). CCNE is a resource of information regarding tuition, fees, and length of program and can be contacted at: One Dupont Circle, N.W., Suite 930, Washington, D.C., 20036, (202) 887-6791.

Expected Outcomes of the Program
- Applies scientific theories and research to implement the advanced nursing role
- Demonstrates competence according to national standards and guidelines in the advanced nursing role
- Demonstrates knowledge of legal, ethical, fiscal, policy, and leadership issues that impact the delivery of health care in the advanced nursing role
- Demonstrates knowledge of legal, ethical, fiscal, policy, and leadership issues that impact the advancement of the nursing profession in the advanced nursing role
- Identifies researchable nursing problems and contributes to research studies for advanced nursing and health care practice

Admission
- Baccalaureate degree in nursing from an NLNAC or CCNE accredited nursing program.**
- 3.00 GPA on a 4.00 scale for all previous college work.
- GRE (preferred) or Miller Analogies Test taken within the last five years for the Nurse Anesthesia track.
- Three (3) letters of reference from a recent employer; a member of the nursing profession; a former faculty member.
- 300-word essay describing professional goals.
- Interview prior to admission to the program.
- Current state of Ohio license to practice nursing.
- Prerequisite course requirements: Undergraduate Statistics, Nursing Research, Basic Health Assessment and Computer Skills, Graduate Level Statistics. A one year experience in an area where critical care and emergencies occur is required for all students admitted to the nurse anesthesia specialty.
- A one year experience in care of children or in the acute care of children or adults is required for those two specialties.
- Applicants who are certified nurse practitioners will be evaluated and have their program planned on an individual basis.
- Applications are accepted on a rolling basis except for Nursing Anesthesia. All application materials for the Nursing Anesthesia program must be received by August 1. Admission to this program is competitive.

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.

Instructorial 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, Psychiatric Mental 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 38 to 60 credits, depending on the Advanced Practice option selected by the student.
### Child and Adolescent Health Nurse Practitioner (Primary/Acute Care) (820308MSN)

The Child and Adolescent Health Nurse Practitioner track (Primary/Acute Care) (65 credit hours) focuses on the integration of evidenced based knowledge and skills in primary and 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.

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8200:585</td>
<td>Nutrition for Pediatric Nurse Practitioners</td>
<td>2</td>
</tr>
<tr>
<td>8200:655</td>
<td>Child and Adolescent Health Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>8200:652</td>
<td>Child and Adolescent Health Nursing I Practicum</td>
<td>2</td>
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<tr>
<td>8200:653</td>
<td>Child and Adolescent Health Nursing II</td>
<td>3</td>
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<tr>
<td>8200:654</td>
<td>Child and Adolescent Health Nursing III</td>
<td>3</td>
</tr>
<tr>
<td>8200:655</td>
<td>Child and Adolescent Health Nursing II Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:656</td>
<td>Pharmacology for Child and Adolescent Health Nursing</td>
<td>3</td>
</tr>
<tr>
<td>8200:657</td>
<td>Child and Adolescent Health Nursing III</td>
<td>3</td>
</tr>
<tr>
<td>8200:658</td>
<td>Child and Adolescent Health Nursing IV</td>
<td>3</td>
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</tbody>
</table>

**Functional role courses selected by students based upon area of specialty.**

(*Anesthesia students take 8200:561 and 8200:562

**Child and Adolescent Acute Care Nurse Practitioner (820401MSN)**

The Child and Adolescent Acute Care Nurse Practitioner track (45 credit hours) focuses on the integration of evidenced based knowledge and skills in acute/critical care with children and adolescents 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.

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<td>8200:567</td>
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<tr>
<td>8200:568</td>
<td>Child and Adolescent Health Nursing IV</td>
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**Child and Adolescent Health Nurse Practitioner Primary Health Care (820301MSN)**

The Child and Adolescent Health Nurse Practitioner track (Primary Health Care) (45 credit hours) meets certification requirements through the American Nurses Credentialing Center (ANCC) and the Pediatric Council for Pediatric Nurse Practitioners. Emphasis is on the primary health care needs of children and adolescents.

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<td>Nutrition for Pediatric Nurse Practitioners</td>
<td>2</td>
</tr>
<tr>
<td>8200:555</td>
<td>Pediatric/Adolescent Assessment</td>
<td>2</td>
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<tr>
<td>8200:552</td>
<td>Child and Adolescent Health Nursing I</td>
<td>3</td>
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<tr>
<td>8200:553</td>
<td>Child and Adolescent Health Nursing I Practicum</td>
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<td>Child and Adolescent Health Nursing III Practicum</td>
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<td>8200:556</td>
<td>Pharmacology for Child and Adolescent Health Nursing</td>
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**Psychiatric Family Nurse Practitioner (820400MSN)**

The Psychiatric Family Nurse Practitioner track (38-42 credit hours) provides the educational preparation necessary to provide primary mental healthcare at an advanced level to individuals of all ages and families. Preparation as a Psychiatric Family Nurse Practitioner is emphasized and includes clinical supervision of individuals and families, differential diagnosis and management of psychiatric and mental health disorders, medication management, psychotherapeutic interventions, and case management. Graduates of the Psychiatric Family Nurse Practitioner track are eligible to sit for certification from the American Nurses Credentialing Center (ANCC) as a Family Psychiatric and Mental Health Nurse Practitioner (FPNMP).

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<tr>
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<tbody>
<tr>
<td>8200:610</td>
<td>Advanced Mental Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td>8200:611</td>
<td>Advanced Adult/Gerontological Assessment with Practicum</td>
<td>3</td>
</tr>
<tr>
<td>8200:660</td>
<td>Psychiatric Mental Health, APN I Practicum</td>
<td>2</td>
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<tr>
<td>8200:661</td>
<td>Psychiatric Mental Health, APN I</td>
<td>3</td>
</tr>
<tr>
<td>8200:662</td>
<td>Clinical Psychopharmacology</td>
<td>3</td>
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<tr>
<td>8200:663</td>
<td>Psychiatric Mental Health, APN Internship (selective only)</td>
<td>1-4</td>
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<tr>
<td>8200:664</td>
<td>Psychiatric Mental Health, APN II Practicum</td>
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<td>8200:665</td>
<td>Psychiatric Mental Health, APN II</td>
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</tr>
<tr>
<td>8200:666</td>
<td>Psychiatric Mental Health, APN III</td>
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</tr>
<tr>
<td>8200:667</td>
<td>Psychiatric Mental Health, APN III Practicum</td>
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<tr>
<td>8200:668</td>
<td>Psychiatric Mental Health, APN IV Practicum</td>
<td>2</td>
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<tr>
<td>8200:669</td>
<td>Psychiatric Mental Health, APN IV</td>
<td>3</td>
</tr>
<tr>
<td>8200:670</td>
<td>Psychiatric Mental Health, APN IV Practicum</td>
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**Additional courses from existing programs:**

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<th>Course Title</th>
<th>Credits</th>
</tr>
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<tr>
<td>8200:650</td>
<td>Advanced Pediatric/Adolescent Assessment</td>
<td>3</td>
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<tr>
<td>8200:663</td>
<td>Psychiatric Mental Health, APN Internship</td>
<td>1-4</td>
</tr>
<tr>
<td>5600:648</td>
<td>Individual and Family Development Across the Lifespan</td>
<td>3</td>
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<tr>
<td>5600:660</td>
<td>Counseling Children</td>
<td>3</td>
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</tbody>
</table>

**Adult Gerontological Health Nursing Clinical Nurse Specialist (820302MSN)**

Meets eligibility requirements for certification through American Nurses Credentialing Center (ANCC) or Clinical Nurse Specialist in selected areas. (58 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:610</td>
<td>Advanced Adult/Gerontological Assessment with Practicum</td>
<td>3</td>
</tr>
<tr>
<td>8200:612</td>
<td>Advanced Clinical Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>8200:671</td>
<td>Adult/Gerontological Health Nursing CNS I</td>
<td>2</td>
</tr>
<tr>
<td>8200:674</td>
<td>Adult/Gerontological Health Nursing CNS I</td>
<td>2</td>
</tr>
<tr>
<td>8200:675</td>
<td>Adult/Gerontological Health Nursing CNS II</td>
<td>2</td>
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<td>8200:676</td>
<td>Adult/Gerontological Health Nursing CNS II</td>
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<tr>
<td>8200:677</td>
<td>Adult/Gerontological Health Nursing CNS III</td>
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<td>8200:678</td>
<td>Adult/Gerontological Health Nursing CNS III</td>
<td>2</td>
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<tr>
<td>8200:679</td>
<td>Adult/Gerontological Health Nursing CNS Practicum</td>
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</tr>
<tr>
<td>8200:673</td>
<td>Adult/Gerontological Health Nursing CNS IV</td>
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</tbody>
</table>
• Adult Gerontological Health Nurse Practitioner (820303/MSN)

Meets eligibility requirements for certification through American Nurses Credentialing Center (ANCC) and American Academy of Nurse Practitioners (AANP). (47 credits)

8200610 Advanced Adult/Gerontological Assessment with Practicum 3
8200612 Advanced Clinical Pharmacology 3
8200620 Adult/Gerontological Health Nursing NP I 2
8200621 Adult/Gerontological Health Nursing NP II 2
8200622 Adult/Gerontological Health Nursing NP III 2
8200623 Adult/Gerontological Health Practicum NP 2
8200624 Adult/Gerontological Health Nursing NP IV 2
8200627 Adult/Gerontological Health Nursing NP I Practicum 2
8200628 Adult/Gerontological Health Nursing NP II Practicum 2
8200629 Adult/Gerontological Health Nursing NP III Practicum 2
8200690 Clinical Management I 3
8200692 Clinical Management II 3
8200694 Clinical Management III 3

Advanced Role Option

• Nursing Administration (36 credits) (820307/MSN)

8200630 Resource Management in Nursing Settings 3
8200632 Fiscal Management in Nursing Administration 3
8200633 Nursing Leadership in Nursing Organizations I 3
8200634 Nursing Leadership in Nursing Organizations II 3
8200635 Organizational Behavior in Nursing Settings 3
8200638 Practicum Nursing Administration I 2
8200639 Practicum Nursing Administration II 2

1 Cognate electives may be substituted for 8200606 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 education
• 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

Program Requirements:

• Professionalism Core:
  8200603 Theoretical Basis 3
  8200607 Policy Issues in Nursing 2

• Inquiry Core:
  3470689 Statistics 3
  8200606 Information Management in Advanced Nursing Practice 3
  8200613 Inquiry I 3
  8200618 Inquiry II 3

• Additional Courses:
  8200612 Advanced Clinical Pharmacology 3
  8200632 Fiscal Management in Nursing 3
  8200630 Resource Management in Nursing 3
  8200635 Organizational Behaviors in Nursing or
  8200xxx Elective 3

Portfolio 7

Total 36

College of Polymer Science and Polymer Engineering

Stephen Z.D. Cheng, Ph.D., Dean
Mark D. Foster, Ph.D., Associate Dean of Programs, Policies, and Engagement

HISTORY

The University of Akron has been a focus for education and research in polymer science since 1900 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 Rubber Research under the direction of Professor Maurice Morton was created in 1956, which became an Institute of Polymer Science in 1964. A Ph.D. program in Polymer Chemistry was introduced in 1956. In 1967, a Department of Polymer Science in the College of Arts and Sciences was formed which awarded M.S. and Ph.D. degrees in Polymer Science.

A Center for Polymer Engineering was created in 1963 and a Department of Polymer Engineering in the College of Engineering in January 1984 with Professor James L. White as director and department chair to give thrust to polymer processing and engineering applications.

In 1988 the College of Polymer Science and Polymer Engineering was established to consolidate the administration of the two academic departments, the Institute of Polymer Science and the renamed Institute of Polymer Engineering.

MISSION STATEMENT

The mission of the College of Polymer Science and Polymer Engineering is to serve its students through a high quality educational experience, incorporating both classroom and laboratory learning, as well as a stimulating research environment. Its graduates and former research associates provide a well-trained workforce for employers throughout the world, but especially for the State of Ohio. With the generation of new knowledge from research and the application of that knowledge, the College serves society with benefits to both the economy and the environment.

• The primary purpose of the College is to educate its students in the science and engineering of polymers. 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 analy-
sis 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

Admission to the graduate programs in the college is 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 3.0 or better may apply. Students holding a degree in biology or natural sciences will be expected to take additional courses on the undergraduate level in calculus, organic chemistry, thermodynamics, and physics. For highly qualified students lacking more than one of the required courses a provisional admission may be given for one semester, followed by full admission upon successful completion of the undergraduate course.

In addition to the graduate application and official transcripts applicants must submit three letters of recommendation, a statement of purpose, and GRE scores.

A student with a M.S. in the sciences from another university can be admitted to the Ph.D. program. Three letters of recommendation are required in such cases to be certain that the student is likely to be successful in doctoral research.

All application materials must be received by December 15 for early consideration. The final deadline for all applicants is February 1.

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 provisional admission may be given followed by full admission upon successful completion of a series of required remedial courses.

In addition to the graduate application and official transcripts applicants must submit three letters of recommendation and GRE general test scores.

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.

Applications are processed throughout the year for fall semester admission; however, priority consideration is given to those applicants whose materials are received by January 15 each year.

DOCTOR OF PHILOSOPHY

Students may pursue the Doctor of Philosophy degree in either Polymer Science or Polymer Engineering.

Doctor of Philosophy in Polymer Science (987010PHD)

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 course 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 of Polymer Engineering seminars do not apply toward the degree. At least 38 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 17 credits among the following core courses (2 credits each) in polymer science:
  - 9871:601 Polymer Concepts
  - 9871:602 Synthesis and Chemical Behavior of Polymers
  - 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 19 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 (984010PHD)

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.
- 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 of Polymer Engineering seminars do not apply toward the degree. At least 38 credits of graduate course work and all dissertation credits must be completed at the University.

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.

Doctoral students are also required to take 9841:601 four (4) times. While the one credit earned in this course will count only one time toward degree requirements, all grades will be counted and calculated into the student’s GPA.
**Mathematics electives (3 credits):**

- 3450:xxx Approved Mathematics 3
- 3430:681 Advanced Engineering Materials 3
- 4600:622 Continuum Mechanics 3
- 9841:xxx Approved Polymer Engineering 3
- 9871:613 Polymer Science Laboratory 3
- 9871:674 Polymer Structure and Characterization 2
- 9871:675 Polymer Thermodynamics 2

**Technical electives (2 credits):**

- 3450:xxx Approved Mathematics 3
- 4300:681 Advanced Engineering Materials 3

**Polymer Engineering 700-level electives (10 credits):**

9841:7xx Electives 10

Electives 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):**

- 9841:699 Master's Thesis 6
- 9841:698 Preliminary Research 3
- 9841:690 Master's Dissertation 0

Students may take a combination of 9841:698 (Preliminary Research) and 9841:699 (Doctoral Dissertation) to meet this requirement, however, a minimum of 12 credits of the total 60 required must be of 9841:699.

**Foreign Language Requirement:**

Additionally, a foreign language or research technique (e.g., 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).

**Take a Basic Engineering exam after the first Fall semester of study.** The exam will cover heat transfer, fluid mechanics and solid mechanics, as determined by the department. If a student fails the examination or a portion of the examination, he/she may be asked to take remedial undergraduate courses (at his/her own expense) or graduate level courses within one year from the date of the exam. 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.

**Successfully complete six one-hour qualifying examinations within three semesters after admission into the program.** The examinations shall cover graduate courses that the student has completed and basic undergraduate topics.

**All doctoral students are required to give a formal presentation on their research as part of the regular departmental seminar series, 9841:601, at least one time after the start of their fourth year of study.**

**Each doctoral student who entered the program in 2006 or earlier must (1) pass a candidacy exam and (2) must present his/her research proposal for approval by the advisory committee within 18 months of successfully completing the Ph.D. qualifying exams.**

**Each doctoral student who entered the program in 2007 or later must (1) pass a candidacy exam and (2) must present his/her research proposal for approval by the advisory committee within three years of entry into the program.**

**Each candidate must pass an oral examination in defense of the dissertation.**

**Submit the written Doctoral Dissertation to the Graduate School by the required deadlines.**

- A student receiving a Master of Science degree from The University of Akron in Polymer Engineering may use all lecture course credits toward the 36 lecture hours credit requirement.
- A student entering with a master's degree or graduate credits from another institution may be given 18 credit hours toward the lecture course requirement.

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**MASTER'S DEGREE**

Students may pursue Master of Science degrees in either Polymer Science or Polymer Engineering. Admission requirements to the master's program are the same as those for the doctoral program as listed on page 81 of this Bulletin.

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**Master of Science in Polymer Science (987010MS)**

- **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; 615 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 (9871:699) and the resulting 6 credits.
- Attendance at and participation in seminar-type discussions scheduled by the department. Credits for participation in either polymer science or polymer engineering seminars do not apply toward the degree.
- Demonstrated competence in computer skills.
- At least 12 credits of graduate coursework and all theses credits must be completed at the University.
- Pass one cumulative exam.

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**BS Natural Sciences-Polymer Chemistry/MS Polymer Science (987012MS)**

In Northeast Ohio there is a growing demand for professionals trained in polymer chemistry. The polymer industry is one of the major industrial sectors of the economy of Ohio. The BS/MS Polymer Chemistry program was instituted to prepare students for jobs in this area. The program provides a quality undergraduate science degree coupled with a graduate degree from one of the premier polymer programs in the country.

Students who are admitted to this program can complete the undergraduate phase of the course of study in three years and then immediately begin graduate studies in polymer science. Under rare circumstances, a student can complete the undergraduate phase in four years after approval of his/her advisors. A student not proceeding to the graduate program in polymer science may complete the degree requirements for the BS Natural Sciences (Polymer Chemistry Concentration).

Students earn a bachelor’s degree in Natural Sciences from the Buchtel College of Arts and Sciences that is heavily weighted toward chemistry. They will be assigned an advisor in the Department of Chemistry and a co-advisor in the Department of Polymer Science, who will advise them throughout their undergraduate program. Once the undergraduate degree is completed students begin studies to earn a Master’s of Science from the College of Polymer Science and Polymer Engineering that will require two years of courses and research. The graduate degree requirements for the master’s portion of this accelerated program are the same requirements as those for the traditional master’s program in polymer science.

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**Master of Science in Polymer Engineering (984010MSPE)**

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 Polymer Fluids 3
  - 9841:622 Analysis and Design of Polymer Processing Operations I 3
  - 9841:631 Engineering Properties of Solid Polymers 3
  - 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
  - 9841:661 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 M.S. students, but it may be exempted as an elective for part-time students who are currently employed in polymer and related industries.

Master's students are also required to take 9841:601 two (2) times. While the one credit earned in this course will count only one time toward degree requirements, both grades will be counted and calculated into the student's GPA.

- **Technical electives (6 credits):**
  - 3450:xxx Approved Mathematics 3
  - 4300:681 Advanced Engineering Materials 3
  - 4600:622 Continuum Mechanics 3
  - 9841:xxx Approved Polymer Engineering 3
  - 9871:613 Polymer Science Laboratory 3
  - 9871:674 Polymer Structure and Characterization 3
  - 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.

BS/MS Program in Applied Mathematics/Polymer Engineering (984021MSPM)

This is an accelerated five-year BS/MS program. After successfully completing this program, a student will receive a bachelor's degree in applied mathematics as well as a master's degree in polymer engineering. Under the supervision of faculty advisors in applied mathematics and polymer engineering, a student in the program will finish the core course requirements and most of the electives for the bachelor's degree in the first three years. During the third year of the baccalaureate degree a student will formally apply to the program through the Graduate School. Upon acceptance a student will be cleared to complete the remaining electives of the bachelor's degree and 30 credits of graduate work for the master’s degree in the last two years. A student will be eligible for a graduate assistantship only in these last two years and must be registered for at least nine graduate credits in each of those semesters.

Graduate coursework will include:

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3450:539</td>
<td>Advanced Engineering Mathematics II*</td>
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<tr>
<td>9841:550</td>
<td>Engineering Properties of Polymers*</td>
<td>3</td>
</tr>
<tr>
<td>9841:641</td>
<td>Polymer Materials Engineering Science</td>
<td>2</td>
</tr>
<tr>
<td>9841:650</td>
<td>Basic Engineering for Polymer Engineers</td>
<td>3</td>
</tr>
<tr>
<td>9841:661</td>
<td>Polymerization Reactor Engineering</td>
<td>3</td>
</tr>
<tr>
<td>9841:601</td>
<td>Seminar: Polymer Engineering**</td>
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<tr>
<td>9841:611</td>
<td>Structural Characterization</td>
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<td>Rheology of Polymeric Fluids</td>
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</tr>
<tr>
<td>9841:622</td>
<td>Analysis and Design</td>
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<tr>
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<td>Electives</td>
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</tr>
<tr>
<td>9841:699</td>
<td>Master's Thesis</td>
<td>3</td>
</tr>
</tbody>
</table>

*These courses will be applied to the requirements of both the bachelor’s and master’s degree.

**Master's students are required to take 9841:601 two times. While the one credit earned in this course will count only one time toward the degree requirement, both grades will be counted into the student’s GPA.

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 in applied mathematics or the Natural Sciences divisional major instead of the five-year accelerated plan.

BA/MS Program with BA Physics/Chemical Physics at the College of Wooster and MS Polymer Engineering at UA (984030BAMS)

The five-year BA/MS program at The University of Akron with BA Physics/Chemical Physics at the College of Wooster and MS Polymer Engineering at UA is an accelerated program which involves initial completion of three years of BA coursework in Physics/Chemical Physics at the College of Wooster followed by two years of undergraduate and graduate coursework, along with graduate thesis work in the Department of Polymer Engineering, at The University of Akron. The College of Wooster will award the BA in Physics/Chemical Physics after completion of the fourth year of coursework at The University of Akron. Students intending to enroll in the BA/MS program will consult with the faculty counselors at both the College of Wooster and The University of Akron.

Students must apply to the Graduate School during the third year of the BA at the College of Wooster. The admissions committee of the Department of Polymer Engineering will evaluate applications of potential BA/MS students in their third year. Students will be admitted to the MS program at The University of Akron after completing three years of the BA at the College of Wooster. The MS in Polymer Engineering will be awarded at the completion of the fifth year when all graduate degree requirements have been successfully completed.

Graduate Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>9841:550</td>
<td>Engineering Properties of Polymers</td>
<td>3</td>
</tr>
<tr>
<td>9841:601</td>
<td>Polymer Engineering Seminar</td>
<td>1</td>
</tr>
<tr>
<td>9841:611</td>
<td>Structural Characterization of Polymers with Electromagnetic Radiation</td>
<td>2</td>
</tr>
<tr>
<td>9841:621</td>
<td>Rheology of Polymeric Fluids</td>
<td>3</td>
</tr>
<tr>
<td>9841:622</td>
<td>Analysis and Design of Polymer Processing Operations I</td>
<td>3</td>
</tr>
<tr>
<td>9841:631</td>
<td>Engineering Properties of Solids</td>
<td>2</td>
</tr>
<tr>
<td>9841:641</td>
<td>Polymer Materials Engineering Science</td>
<td>2</td>
</tr>
<tr>
<td>9841:650</td>
<td>Basic Engineering for Polymer Engineers</td>
<td>3</td>
</tr>
<tr>
<td>9841:651</td>
<td>Polymer Engineering Lab</td>
<td>3</td>
</tr>
<tr>
<td>9841:661</td>
<td>Polymerization Reactor Engineering</td>
<td>3</td>
</tr>
<tr>
<td>9841:699</td>
<td>Master’s Thesis</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Other graduate courses that may be taken as electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>9841:623</td>
<td>Analysis and Design of Polymer Processing Operations II</td>
<td>3</td>
</tr>
<tr>
<td>9841:675</td>
<td>Carbon-Polymer Nanotechnology</td>
<td>3</td>
</tr>
<tr>
<td>9841:680</td>
<td>Polymer Coatings</td>
<td>3</td>
</tr>
</tbody>
</table>
Interdisciplinary and Certificate Programs of Study

Overview
To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a major, the student may elect to pursue one of these programs.

Interdisciplinary Studies programs feature courses which integrate and analyze issues and concepts from more than one field. The goal of this type of study is to place knowledge into a greater perspective than would be possible through any one traditional field. This is accomplished by taking courses from a variety of departments as well as courses which may be team taught.

Upon completion of any of these programs, a statement will be placed on the student’s permanent record indicating the area of concentration. The certificate indicating the area of concentration will be awarded when the student completes requirements for a degree unless the program specifies that it is free-standing and does not require participation in a degree program.

ACUTE CARE NURSE PRACTITIONER (820007GC)
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 intensive study including advanced clinical practice and theory. The program is built upon a core of advanced assessment, pathophysiology, and pharmacology. Acute Care Nurse Practitioners are prepared to conduct comprehensive physical assessments, appraise health risks and promote health behaviors, order and interpret diagnostic tests, diagnose and manage commonly occurring health problems and diseases. The program consists of 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 ID</th>
<th>Course Title</th>
<th>Credit Hours</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 COURSES

ADULT/GERONTOLOGICAL HEALTH NURSING CLINICAL NURSE SPECIALIST (820104GC)
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 (820009GC)
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.

Program of Study
Ohio RN licensure.
Hold an MSN degree from a professionally accredited nursing program (clinical master’s preferred).
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
ADVANCED CERTIFICATE IN FAMILY CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT

(300010GC)

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.

Requirements

Conflict Analysis Core Courses:
- Conflict Analysis Core Courses
- Seminar in Alternatives to Violence at Home and Abroad
- Family Violence

Skill Development Core Courses
- Seminar: General Mediation Training
- Seminar: Divorce Mediation Training

Elective Courses: (choose two)*
- Sociology of Women
- Victim in Society
- Special Topics (conflict related)
- Family Law
- Alternative Dispute Resolution

**Law School classes are offered on a space available basis and require the permission of instructor

Total credit hours 16

*To complete the certificate, students must submit a seminar paper from one of their courses selected from the electives list to the Director of the Center for approval as a scholarly investigation of the issues surrounding family conflict.

ADVANCED CERTIFICATE IN GLOBAL CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT

(300011GC)

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.

Requirements

Conflict Analysis Core Courses:
- Seminar in Alternatives to Violence at Home and Abroad
- Family Violence

Skill Development Core Courses
- Seminar: General Mediation Training
- Seminar: Divorce Mediation Training

Elective Courses: (choose three)*
- Race and Ethnic Relations
- Global Environmental Politics
- Seminar in International Politics
- Special Topics (global conflict related)

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

(8200101GC)

This certificate program is open to all current master’s and doctoral students in the College of Nursing, post-baccalaureate students, post-MSN students, and post-doctoral nurses who are currently in advanced practice.

Admission:

Formal admission to the University of Akron is required as either a post-baccalaureate student, graduate student, or non-degree graduate student. The awarding of this certificate is not contingent upon a degree completion program.

Program of Study:

Students should successfully complete all four courses listed below.

- Adult/Gerontological Health Nursing NP II Practicum
- Adult/Gerontological Health Nursing NP III Practicum
- Adult/Gerontological Health Practicum NP
- Clinical Management I
- Clinical Management II
- Clinical Management III

Total 17

APPLIED POLITICS

(370005GC)

John C. Green, Ph.D., Director

The Ray C. Bliss Institute and the Department of Political Science have combined to offer a Certificate Program in Applied Politics for graduate students. The Certificate Program in Applied Politics offers course work in the history, organization and management of campaigns intended to influence the outcome of political decisions. Working from a set of core courses, students are allowed to concentrate in the area of applied politics of greatest interest—campaigns, communications, lobbying, political parties, etc. Believing that democracy is best served by having active and informed citizens, the certificate is designed for all students, no matter what their degree program as long as they have a deep interest in practical politics.

Requirements

Persons are eligible for admission to the Certificate Program in Applied Politics if they have been admitted to study as full-time students, special, or non-degree in any department of the University. Students who are pursuing a graduate degree in other departments at the University may be admitted to the Master’s level certificate program upon the recommendation of the chair/director of the department/school in which they are enrolled. The student shall schedule courses with the assistance of an advisor at the earliest possible time.

Core Courses (required –12 credits):
- Campaign Management I
- Campaign Management II
- Seminar: Political Influence and Organizations
- Internship in Government and Politics

Electives (required – 6 credits):
- Survey Research Methods
- Campaign Finance
- Political Opinion, Behavior and Electoral Policies
- Lobbying
- Campaign and Election Law
- Political Communication

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

(340001GC)

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 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 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 is required.
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 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 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 Chinese
- 3500:102 Beginning Chinese II
- 3500:201 Intermediate Chinese
- 3500:202 Intermediate Chinese II
- 3560:101 Beginning Japanese
- 3560:102 Beginning Japanese II
- 3560:201 Intermediate Japanese
- 3560:202 Intermediate Japanese II

**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.

- 3370:665 Field Studies in Geology *
- 3400:500 Women in Revolutionary China
- 3400:501 Japan and the Pacific War, 1895-1945
- 3400:516 Modern India
- 3400:596 Special Studies (in Asian History)
- 3400:610 Comparative Studies in World Civilization
- 3400:640 Reading Seminar: China
- 7100:501 Special Topics **

**Recent 500-level Selected Topics in the School of Art have included “The Art of India,” “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.

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**CASE MANAGEMENT FOR CHILDREN AND FAMILIES (H40202GC)**
Richard Glotzer, 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.

- 400:561 Case Management for Children and Families I
- 400:562 Case Management for Children and Families II
- 400:583 Practicum in Cross-Systems Case Management for Children and Families

**Electives:**
Students must successfully complete six credits of coursework selected from the various departmental courses listed below.

- Family and Consumer Sciences
  - 400:501 American Families in Poverty (online)
  - 400:504 Middle Childhood and Adolescence
  - 400:542 Family Crisis
  - 400:546 Culture, Ethnicity and the Family (online)
  - 400:602 Family in Life-Span Perspective

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**CHILD AND ADOLESCENT HEALTH NURSE PRACTITIONER (820006GC)**
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/Acute 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:651</td>
<td>Child and Adolescent Health Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>8200:652</td>
<td>Child and Adolescent Health Nursing I Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:655</td>
<td>Child and Adolescent Health Nursing II</td>
<td>3</td>
</tr>
<tr>
<td>8200:653</td>
<td>Child and Adolescent Health Nursing II Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:656</td>
<td>Pharmacology for Child and Adolescent Health Nursing</td>
<td>3</td>
</tr>
<tr>
<td>8200:658</td>
<td>Child and Adolescent NP Internship (required 4 credits)</td>
<td>1-4</td>
</tr>
</tbody>
</table>

**Total**
17

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**CHILD AND ADOLESCENT HEALTH NURSING-ACUTE CARE (820103GC)**
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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:585</td>
<td>Nutrition for the Pediatric Nurse Practitioner</td>
<td>2</td>
</tr>
<tr>
<td>8200:688</td>
<td>Pathophysiological Concepts</td>
<td>3</td>
</tr>
<tr>
<td>8200:650</td>
<td>Advanced Pediatric/Acute Assessment</td>
<td>3</td>
</tr>
<tr>
<td>8200:656</td>
<td>Pharmacology for Child and Adolescent Health Nursing</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>8200:685</td>
<td>CAH Acute Care III</td>
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<tr>
<td>8200:686</td>
<td>CAH Acute Care III Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:687</td>
<td>CAH Acute Care IV</td>
<td>3</td>
</tr>
<tr>
<td>8200:688</td>
<td>CAH Acute Care IV Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:658</td>
<td>Child and Adolescent Health NP Residency (required)</td>
<td>1-4*</td>
</tr>
</tbody>
</table>

**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.

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**COMPOSITION (330002GC)**
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. Dailects: Black and White 3
- 3300:589 Seminar in English: Grammatical Structures of Modern English 3
- 3300:575 Theory of Rhetoric 3
- 3300:589 Seminar in English: Sociolinguistics 3
- 3300:670 Modern Linguistics 3
- 3300:689 Seminar in English: Stylistics 3
- 3300:689 Seminar in English: Contextual Linguistics 3

**DIVORCE MEDIATION**

**H40201GC**

Richard Glotzer, 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 cotagate or minor. In this case, students must receive permission from their academic department as well as permission from the Center for Family Studies. Since the educational preparation prior to entry to this program will be quite diverse, the selection of courses within the certificate will vary among the participants. However, all students are expected to complete the core courses in addition to 10 credit hours selected from among several disciplines related to divorce mediation.

**Core:**

- 1800:601 Divorce Mediation 3
- 1800:602 Divorce Mediation Practicum 2

**Select at least one from each area:**

- **Law**
  - 9200:638 Family Law 3

- **Accounting**
  - 6200:601 Financial Accounting 3
  - 9200:621 Accounting for Lawyers 3

- **Family**
  - 5600:655 Marriage and Family Therapy: Theory and Techniques 3
  - 5600:667 Marital Therapy 3
  - 2602:607 Family Dynamics 3

**Electives:** Students who have already completed coursework in Law, Accounting or Family may select from courses listed below:

- 5600:647 Career Counseling 3
- 5600:669 Systems Theory in Family Therapy 3
- 3400:540 Family Crisis 3
- 3300:590 W. Family and Divorce 2
- 4200:602 Family in Life-Span Perspective 3
- 9200:684 Alternate Dispute Resolution 3

**E-BUSINESS**

**6500108GC**

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

A new breed of technologies has 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:**

- 6500:608 Entrepreneurship 3
- 6500:644 Knowledge Management and Business Intelligence 3
- 6600:600 Marketing Concepts 3
- 6600:635 E-Business Marketing Strategies and Tactics 3

**Choose one of the following:**

- 6500:665 Management of Technology 3
- 6600:663 Data Analysis for Managers 3
- 6600:645 Innovative Marketing Strategies 3
- 6600:630 Marketing of Services 3

**E-LEARNING**

**(510006GC)**

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 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. Courses are delivered in online, face-to-face, and blended formats that model e-Learning delivery modes.

Applicants wishing to pursue only the certificate program must apply to the graduate school for admission as a non-degree student.

**Requirements (16 credits):**

- 5400:301 Learning with Technology 3
- 5150:631 Instructional Design 3
- 5150:632 Web-based Learning Systems 3
- 5150:633 Multimedia/Hypermedia 3
- 5150:639 Strategies for Online Teaching and Learning 3
- 5150:696 Technology Project 3
- **Total** 16

**EDUCATIONAL ASSESSMENT AND EVALUATION**

**(510004GC)**

This graduate certificate program is geared toward current or future classroom teachers and other educators, who want to expand their knowledge of the basic principles and applications of assessment and evaluation. The coursework in the certificate program focuses on data-driven decision making as a cyclical process, and the students will apply their new knowledge and skills to their unique professional situations. The program is applicable to all educators with a focus across disciplines, content areas, and grade levels. Eighteen credit hours are required to earn the certificate. The following skill-set describes the overall goals of the program.

- Designing and implementing formative and summative assessments;
- Analyzing and interpreting assessment data to improve teaching and learning;
- Applying evaluation theory and diverse approaches in authentic situations;
- Implementing assessment and evaluation to impact practices at the classroom, school, and district level;
- Locating, analyzing, interpreting, and using multiple data sources to make data-evidenced decisions.

**Required Courses:**

- 5100:645 Techniques of Research 3
- 5100:652 Introduction to Classroom Assessment for Teachers 3
- 5100:650 Implementing Assessment in the Classroom 3
- 5100:651 Data-Driven Decision Making for Educators 3
- 5100:652 Introduction to Educational Evaluation 3
- 5100:653 Practical Applications of Educational Evaluation 3

**ENVIRONMENTAL ENGINEERING**

**(430009GC)**

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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:523</td>
<td>Chemistry for Environmental Engineers</td>
<td>3</td>
</tr>
<tr>
<td>4300:526</td>
<td>Environmental Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:527</td>
<td>Water Quality Modeling and Management</td>
<td>3</td>
</tr>
<tr>
<td>4300:623</td>
<td>Physical/Chemical Treatment Processes</td>
<td>3</td>
</tr>
<tr>
<td>4300:624</td>
<td>Biological Wastewater Treatment Processes</td>
<td>3</td>
</tr>
<tr>
<td>4300:631</td>
<td>Soil Remediation</td>
<td>3</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL STUDIES (300100GC)
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. For advising please contact the Department of Geology and Environmental 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):
- 3370:580 Seminar in Environmental Studies (2 credits) (may be repeated as elective)

Electives (minimum of 14 credits):
- 3100:500 Food Plants
- 3100:521 Tropical Field Biology
- 3100:526 Wetland Ecology
- 3100:660 Environmental Physiology
- 3100:624 Advanced Aquatic Ecology
- 3350:505 Geographic Information Systems
- 3350:507 Advanced Geographic Information Systems
- 3350:541 Remote Sensing
- 3350:549 Advanced Remote Sensing
- 3350:595 Soil and Water Field Studies
- 3370:511 Glacial Geology
- 3370:570 Geochemistry
- 3370:574 Groundwater Hydrology
- 3370:580 Seminar in Environmental Studies (2 credits)
- 3370:661 Geologic Record of Past Global Change
- 3370:674 Advanced Groundwater Hydrology
- 3370:671 American Environmental History
- 3310:361 Applied Statistics I
- 3310:512 Global Environmental Politics
- 3850:686 Population
- 4200:563 Pollution Control
- 4200:750 Advanced Pollution Control
- 4300:523 Chemistry for Environmental Engineers
- 4300:526 Environmental Engineering Design
- 4300:527 Water Quality Modeling and Management
- 4300:528 Hazardous and Solid Wastes
- 4300:620 Sanitary Engineering Problems
- 4300:621 Environmental Engineering Principles
- 4300:631 Soil Remediation
- 4300:731 Bioremediation
- 9200:661 Environmental Law

FAMILY NURSE PRACTITIONER CERTIFICATE FOR CERTIFIED PNs (820106GC)
The Post-MSN Family Nurse Practitioner Certificate program is designed for those nurses who hold the master’s degree in Child and Adolescent Health or Pediatric Nursing, are certified as Pediatric Nurse Practitioners, and are seeking preparation to practice as a family nurse practitioner. Upon completion of the 16-18 credit hour program, students are eligible to sit for the family nurse practitioner certification examination.

Prerequisites:
- 5600:648 Individual and Family Development Across the Life-Span
- 8200:602 Advanced Adult/Gerontological Assessment/FNP
- 8200:612 Advanced Clinical Pharmacology (or equivalent)

Required Courses:
- 8200:620 Adult/Gerontological Health Nursing NP I
- 8200:622 Adult/Gerontological Health Nursing NP III
- 8200:626 Primary Care of the OB Patient for the Family Nurse Practitioner I
- 8200:690 Clinical Management I
- 8200:692 Clinical Management II
- 8200:694 Clinical Management III
- 8200:626 Adult/Gerontological NP Residency (consisting of 225-300 clinical hours) 1-4

GRADUATE CERTIFICATE IN GENDER CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT (300014GC)
An 18 credit graduate certificate offering graduate students an opportunity to examine the scholarly debates surrounding gender conflicts.

Required Courses:
- 3700:522 Understanding Racial and Gender Conflict
- 3850:547 Sociology of Sex and Gender
- Electives:
  - 3700:502 Politics and the Media
  - 3700:622 Seminar in Alternatives to Violence at Home and Abroad
  - 3850:646 Social Inequalities
  - 3850:510 Social Structures and Personality
  - 3850:541 Sociology of Law
  - 3850:556 Family Violence
  - 3850:753 ST: Gender and Crime
  - 3220:516 Anthropology of Sex and Gender
  - 3220:563 Social Anthropology
  - 3300:589 Seminar in English: Subversive Women
  - 3300:589 Seminar in English: British Women Writers
  - 3400:590 Special Studies: Women, Film, and History
  - 3400:699 Reading Seminar in American History Since 1877 (US Women's History)

GRADUATE CERTIFICATE IN CROSS-CULTURAL NEGOTIATION (370013GC: South and East Asia Track) (370014GC: Middle East Track)
South and East Asian Track

Conflict Core (6 credits):
- 3700:622 Alternatives to Violence at Home and Abroad
- 6600:575 Business Negotiations

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):
- 3250:560 Economics of Developing Countries
- 3250:561 Principles of International Economics
- 3400:516 Modern India
- 3400:550 Women in Revolutionary China
- 3400:610 Graduate Reading Seminar: Comparative Studies: World Civilization
- 3700:610 Seminar in International Politics

FAMILY NURSE PRACTITIONER CERTIFICATE FOR ADULT AND/OR GERONTOLOGICAL NPs (820107GC)
The Post-MSN Family Nurse Practitioner Certificate program is designed for those nurses who hold the master’s degree in Adult and/or Gerontological Nursing, are certified as Adult or Gerontological Nurse Practitioners, and are seeking preparation to practice as a family nurse practitioner. Upon completion of the 17-18 credit hour program, students are eligible to sit for the family nurse practitioner certification examination.

Required Courses:
- 5600:648 Individual and Family Development Across the Life-Span
- 8200:616 Advanced Pediatric/Adolescent Assessment/FNP
- 8200:617 Advanced Pharmacology: Child/Adolescent Health Nursing/FNP
- 8200:625 Primary Care of the OB Patient for the Family Nurse Practitioner I
- 8200:651 Child and Adolescent Health Nursing I
- 8200:655 Child and Adolescent Health Nursing II
- 8200:658 CAH: NP Residency (consisting of 225 clinical hours) 1-4

Interdisciplinary and Certificate Programs 89
GRADUATE CERTIFICATE IN GEOGRAPHIC INFORMATION SCIENCES (335008GC)

Program
The geographic information sciences (GISci) 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 technicians, or as cartographers or remote sensing analysts.

This graduate certificate can be taken by degree-seeking students in geology, 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
Geotechnical Requirements (6 credits):
- 3350:505 Geographic Information Systems 3
- 3350:540 Cartography 3
- 3350:547 Remote Sensing 3

Geotechnical Electives (9 credits):
- 3350:507 Advanced Geographic Information Systems 3
- 3350:541 Global Positioning Systems (GPS) 3
- 3350:542 Cartographic Theory and Design 3
- 3350:544 Applications in Cartography and Geographic Information Systems 3
- 3350:545 GIS Database Design 3
- 3350:546 GIS Programming and Customization 3
- 3350:549 Advanced Remote Sensing 3

3350:581 Research Methods in Geography and Planning 3
3350:583 Spatial Analysis 3
3350:596 Field Research Methods 3

GEOTECHNICAL ENGINEERING (430008GC)
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:
- 3350:615 Foundation Engineering I 3
- 3350:617 Numerical Methods in Geotechnical Engineering 3
- 3350:717 Soil Dynamics 3

Four of the following workshop courses may be taken and substituted for two (2) of the courses above:
- 3350:540 Cartography 3
- 3350:541 Global Positioning Systems (GPS) 3
- 3350:542 Cartographic Theory and Design 3
- 3350:544 Applications in Cartography and Geographic Information Systems 3
- 3350:545 GIS Database Design 3
- 3350:546 GIS Programming and Customization 3
- 3350:549 Advanced Remote Sensing 3

GEONTOLOGY (330006GC)
Harvey L. Sterns, Ph.D., Director

Requirements
This certificate program is a special course of study in gerontology that compliments graduate degree programs in various departments and colleges throughout the University. There is a combined graduate certificate program with Kent State University. Combined, the two universities offer a diverse range of graduate courses with aging-related content and joint faculty that are nationally and internationally recognized scholars in gerontology. The graduate certificate is to be received with either a master’s or doctoral degree. Individuals who already hold a graduate degree may also pursue the certificate. The program represents a concentration involving current knowledge and research in gerontology. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that are becoming specialized in research and service to adults and older adults. The 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
Core:
3006:690 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
3006:696 Practicum in Life-Span Development and Gerontology 3
Electives:*
3006:698 Retirement Specialist 2
3006:690 Workshop – Women: Middle and Later Years 2
3006:690 Workshop – Aging: Process and Intervention 2
3700:580 Policy Problems: Aging (Offered every other year) 3
3750:620 Psychology Core II: Developmental, Perceptual, Cognitive 2
3750:727 Psychology of Adulthood and Aging 4
3850:681 Cross Cultural Perspectives in Aging 3
3850:678 Social Gerontology 3
5400:541 Educational Gerontology Seminar 3
5400:661 Current Issues in Higher Education: Life-Span and Community Education 3
6500:683 Health Services Systems Management (with permission) 3
7400:541 Family Relationships in Middle and Later Years 3
7700:624 Neuromuscular and Language Disorders 3
7750:550 Social Needs and Services for Later Adulthood and Aging 3

*From student’s home department.

**Select a minimum of two courses. A student is required to take one of the electives outside the major or degree department. One credit workshop may be included as an elective, with permission.

HEALTHCARE MANAGEMENT
(650205GC)
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:
6500:580 Introduction to Healthcare Management 3
6500:582 Health Services Operations Management 3
6600:683 Health Services Systems Management 3
Elective Courses (Choose six credits from the following):
6500:585 Special Topics in Health Services Administration 3
6500:688 Health Services Research Project 3
6500:688 Independent Study in Health Services Administration 3
3250:536 Health Economics 3
3850:615 Epidemiologic Methods in Health Research 3
3850:666 Sociology of Healthcare 3
4800:630 Biomedical Computing 3
8200:632 Fiscal Management in Nursing Administration 3
6500:620 Computer Techniques for Managers 3
6500:641 Database Systems 3
6500:650 Human Resource Systems for Managers 3
6500:663 Data Analysis for Managers 3
6500:675 Supply Chain Management 3
6500:6xx Any course with the approval of the Director 3

Total 12

HIGHER EDUCATION
(550900GC)
Requirements*
This certificate program in higher education requires a minimum of 18 credits. The program of studies has been designed to serve the practicing or prospective college or university administrator or instructor.

Admission
All applicants to the program should have previously earned a bachelor’s degree. Special admission for concurrent studies toward a master’s degree and the higher education certificate may be allowed for persons currently employed in higher education. Students interested in admission should first meet with the program coordinator. Persons wishing to pursue a master’s degree in Educational Administration-Higher Education Option must, however, also apply to the Graduate School for admission to the program. Applicants wishing to pursue only the certificate program must apply to the Graduate School for admission as a special non-degree student.

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

Required (12):
5100:703 Seminar: History and Philosophy of Higher Education 3
5190:515 Administration in Higher Education 3
5190:600 Advanced Administrative Colloquium in Higher Education 3
5190:601 Internship in Higher Education 2
5190:602 Internship in Higher Education Seminar 1

Total 12

Electives (6):
5190:521 Law and Higher Education 3
5190:526 Student Services in Higher Education 3
5190:527 The American College Student (B) 3
5190:530 Higher Education Curriculum and Program Planning 3
5190:620 Finance in Higher Education 3
5190:626 Policy, Assessment, and Accountability in Higher Education 3

Total hours required: 18

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

HOME-BASED INTERVENTION
THERAPY
(H40200GC)
Richard Glotzer, Ph.D., Coordinator
Program
This certificate program is a special course of study along with undergraduate and graduate degree programs in various departments and colleges throughout the University. Undergraduate students will earn the certificate upon graduation in their degree program. Individuals who already hold undergraduate or graduate degrees may also pursue the certificate. Students with an undergraduate degree who do not seek a graduate degree may pursue the certificate in the postbaccalaureate program. Students who already hold a graduate degree may be admitted to the program as non-degree graduate students. Students pursuing graduate degrees will receive their graduate certificate upon completion of the requirements for their graduate degree. The program represents a concentration in current theoretical knowledge and practice in home-based intervention. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that relate to services to at-risk children and their families. This course of study coordinates multidisciplinary training of personnel in home-based intervention and helps to meet the need for trained professionals in home-based intervention.

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

Admission
To participate in the program at the graduate level, the student should:
- Be formally admitted to The University of Akron Graduate School.
- Make written application to the program countersigned by student’s major academic 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 to formulate a program of study.

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

Students will complete a minimum of 18 hours of graduate credits in core and elective coursework. In order to earn the interdisciplinary certificate in Home-Based Intervention, the student must complete the following requirements within six years after beginning the program.
Requirements

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

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

Theoretical Frameworks:
• Systems Theory
  3850:620  General Systems Theory  3
  5600:643  Theories and Philosophy of Counseling  3
  5600:655  Marriage and Family Therapy: Theory and Techniques  3
• Developmental Theory
  3850:512  Socialization: Child to Adult  3
  7400:602  Family in Life-Span Perspective  3
  7400:605  Developmental Parent-Child Interactions (online)  3
  7400:610  Developmental Theories  3
• Therapeutic Theory
  5600:651  Techniques in Counseling  3
  5600:667  Marital Therapy  3
  5600:669  Systems Theory in Family Therapy  3

Elective Courses (9 credits):
Select one course from three different disciplines. (Must be outside student’s major degree area.)

Specific Skill Areas:
• Psychology
  3750:530  Psychological Disorders of Children  4
  3750:704  Theories of Personality  3
• Sociology
  3850:550  Sociology of Mental Illness  3
  3850:688  Human Ecology  3
  3850:753  Family and Health (Special Topics)  1-3
• Counseling
  5600:550  Counseling Problems Related to Life-Threatening Illness and Death  3
  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
  7400:501  American Families in Poverty (online)  3
  7400:504  Middle Childhood and Adolescence  3
  7400:506  Family Financial Management  3
  7400:540  Family Crisis  3
  7400:542  Human Sexuality  3
  7400:546  Culture, Ethnicity, and the Family (online)  3
  7400:590  Study Abroad in Family and Consumer Sciences: Family and Divorce  2
  7400:596  Parent Education (online)  3
• Social Work
  7750:510  Minority Issues in Social Work Practice  3
  7750:551  Social Work and Child Welfare  3
  7750:552  Social Work and Mental Health  3
  7750:554  Social Work in Juvenile Justice  3

LITERATURE

(330010GC)

Hillary Nunn, Ph.D., Coordinator
To be eligible for the graduate certificate in literature, a person must be admitted to the University as a graduate student (with either full or provisional status). An eligible person interested in the program should contact the Graduate Coordinator in the Department of English. Of the five required courses (15 credits), three must be core courses, Chaucer and Shakespearean Drama; four of the five courses must be at the 600-level; and one must be in American literature.

Core Courses:
3300:506  Chaucer*  3
3300:615  Shakespearean Drama  3

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

INFORMATION SYSTEM PROJECT MANAGEMENT

(650206GC)

Program
Information system project portfolios consist of a combination of off shore and on shore outsourcing as well as in-house development. The successful collaboration between the various stakeholders in global teams is now a necessity. Project management has thus assumed a key role in determining the success of IT based initiatives in this complex and dynamic environment. The IS Project Management graduate certificate program has been designed to meet the needs of IT and other professionals who are interested in developing this expertise. The fifteen credit hour certificate program consists of coursework addressing key areas in the project management life cycle. These include project planning, requirements analysis and design, rapid application development (RADI), and implementation.

Required Courses:
6500:643  Systems Analysis and Design  3
6500:646  Software Development and Quality Assurance  3
6500:647  Enterprise Systems Implementation  3
6500:678  Project Management  3

HUMAN RESOURCE MANAGEMENT

(650005GC)

Program
The Human Resource Management Certificate is a course of study that educates an individual who seeks a career in Human Resources or who is working in Human Resources without having had formal training.

Admission
To participate in the program, the student must be formally admitted to The University of Akron as a graduate or non-degree student and must complete 15 credits. Students should visit the Director of Graduate Studies in Business Administration to request that notification of the certificate be included on the student’s transcript as soon as the course of study is completed. Students admitted to the Human Resource Management Certificate Program may enroll only in those courses required for completion of the certificate.

Requirements (complete all 15 credits)
6500:600  Management and Organizational Behavior*  3

And Pick Four Out Of:
6500:650  Human Resource Systems for Managers  3
6500:651  Management of Organizational Transformation  3
6500:658  Strategic and Global Human Resource Management  3
6500:660  Staffing and Employment Regulation  3
6500:654  Management of Organizational Conflict  3

*Literature Specialist

(520101GC)

Program
The Literacy Specialist certificate program, offered by a consortium of eight Ohio universities, is an advanced program in literacy education. The program is designed as a one-year program, consisting of 18 credit hours, including both online coursework and an internship. Successful completion of the program qualifies the individual to serve in instructional leadership positions at the state, regional, and local educational levels.

Required Courses (18 credits):
5500:660  Coaching in Diverse Classrooms  2
5500:661  Coaching for Effective Assessment Practice  2
5500:662  Pedagogy of Effective Literacy Instruction  2
5500:663  Professional Development in Literacy  2
5500:664  Advanced Literacy Research  2
5500:665  Internship  8

MANAGEMENT OF TECHNOLOGY AND INNOVATION

(650107GC)

R. Ray Gehani, D.Eng., Ph.D., Director
In an increasingly global economy integrated with technology, the innovative enterprises with effective and efficient management of technology and innovation will gain competitive advantage over their rivals. To respond to these needs of our potential employers, this certificate program in Management of Technology and Innovation...
tion was developed by the College of Business Administration with the cooperation of the College of Polymer Science and Polymer Engineering and the guidance of the members of the Advancement Councils of the two colleges. This graduate certificate program offers courses in Management of Technology and other innovation-related business disciplines, including marketing, finance, accounting, entrepreneurship, and more. This certificate program will prepare the learners to innovatively manage a technology-driven enterprise.

To participate in the program the student should:

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

Students admitted to the Management of Technology and Innovation Certificate Program may enroll only in those courses required for completion of the certificate.

**Required Courses:**

- 6500:665 Management of Technology (3)
- 6500:669 Polymer Management Decisions (3)
- 6600:600 Marketing Concepts (3)
- 6200:601 Financial Accounting (3)

**Recommended Electives:**

Select six credits from the following for which the proper prerequisites have been met:

- 6200:610 Process Analysis and Cost Management (3)
- 6400:602 Managerial Finance (3)
- 6500:590 Management and Organizational Behavior (3)
- 6500:602 Computer Techniques for Management (3)
- 6500:608 Entrepreneurship (3)
- 6600:509 Human Resource Systems for Managers (3)
- 6500:654 Management of Organizational Conflict (3)
- 6600:566 Management of Global Supply Chain and Operations (3)
- 6600:540 Product and Brand Management (3)

**MIDDLE EASTERN STUDIES GRADUATE CERTIFICATE** (340002GC)

**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 is also appropriate for students with a graduate degree who might like to return to the university for mid-career training. 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.

**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)
- 3400:589 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)

**Recommended Electives:**

Select six credits from the following for which the proper prerequisites have been met:

- 6600:509 Management and Organizational Behavior (3)
- 6500:602 Computer Techniques for Management (3)
- 6500:608 Entrepreneurship (3)
- 6600:509 Human Resource Systems for Managers (3)
- 6500:654 Management of Organizational Conflict (3)
- 6600:566 Management of Global Supply Chain and Operations (3)
- 6600:540 Product and Brand Management (3)

**NEW MEDIA TECHNOLOGIES** (510005GC)

Cheryl Ward, Ph.D., Coordinator

This certificate program in New Media Technologies requires a minimum of 18 credit hours. The certificate in New Media Technologies has been designed to assist students in becoming competent, employable professional, 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 new media technologies.

Applicants wishing to pursue only the certificate program must apply to the graduate school for admissions as a non-degree student.

**Requirements:**

- 5150:590 Workshop: Instructional Technology **(3)
- 5160:621 Instructional Design (3)
- 5150:632 Web-Based Learning Systems (3)
- 5150:633 Hypermedia/Multimedia (3)
- 5150:634 Visual Literacy (3)
- 5150:635 Emerging Technologies (3)
- 5150:636 Topical Seminar: Educational Technology (3)
- 7500:590 Workshops in Music Technology **(3)
- 7600:516 New Media Writing (3)
- 7600:517 New Media Production (3)
- 7600:568 Advanced Audio and Video Editing (3)
- 7600:590 Workshops in Communication **(3)

*Workshops may be repeated for a total of 6 credit hours.

**NURSE ANESTHESIA** (820102GC)

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 (800 or greater on verbal and quantitative; 3.5 or greater on analytical) 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.
9. Prerequisite: 3470:661 Statistics for Life Sciences

**Program of Study (Phase II):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:637</td>
<td>Residency I (Pediatrics and Obstetrics)</td>
<td>4</td>
</tr>
<tr>
<td>8200:646</td>
<td>Residency II (Cardiac, Thoracic, Cardiovascular, and Neurology)</td>
<td>4</td>
</tr>
<tr>
<td>8200:648</td>
<td>Residency III (Hepatic, Renal, Endocrine, Head &amp; Neck, Trauma, and Burns/Pain Management)</td>
<td>4</td>
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<tr>
<td>8200:647</td>
<td>Professional Role Seminar</td>
<td>2</td>
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<tr>
<td>8200:649</td>
<td>Residency IV (Senior Seminar)</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

**NURSING EDUCATION (820100GC)**

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 not contingent upon a degree completion program.

For information concerning admission to the certificate program, please contact the College of Nursing, Graduate Program, (330) 972-7555.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:681</td>
<td>Instructional Methods in Nursing Education</td>
<td>3</td>
</tr>
<tr>
<td>8200:682</td>
<td>Nursing Curriculum Development</td>
<td>3</td>
</tr>
<tr>
<td>8200:683</td>
<td>Evaluation in Nursing Education</td>
<td>3</td>
</tr>
<tr>
<td>8200:684</td>
<td>Practicum: The Academic Role of the Nurse Educator</td>
<td>3</td>
</tr>
</tbody>
</table>

**PARENT AND FAMILY EDUCATION (H40203GC)**

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 postbaccalaureate, graduate or non-degree graduate student.

Contact the Coordinator of the program for requirements.

**Requirements**

Core:

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:596</td>
<td>Parent Education (online)</td>
<td>3</td>
</tr>
<tr>
<td>7400:605</td>
<td>Developmental Parent-Child Interactions (online)</td>
<td>3</td>
</tr>
<tr>
<td>7400:594</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**
  - 7300:501 American Families in Poverty (online) 3
  - 7300:504 Middle Childhood and Adolescence 3
  - 7300:540 Family Crisis 3
  - 7300:546 Culture, Ethnicity and the Family (online) 3
  - 7300:602 Family in Life-Span Perspective 3
  - 7300:610 Child Development Theories 3
  - 7300:665 Development in Infancy and Early Childhood 3

- **Social Work**
  - 7750:655 The Black Family 3
  - 7750:685 Social Work Practice: Family and Children 3

- **Nursing**
  - 8200:651 Child and Adolescent Health Nursing I 5

- **Psychology**
  - 3750:630 Psychological Disorders of Children 4
  - 3750:726 Child Psychology 4
  - 3750:737 Psychology of Learning Disabilities 4

- **Sociology**
  - 3850:512 Socialization Child to Adult 3
  - 3850:677 Family Analysis 3

- **Educational Foundations**
  - 5100:648 Individual and Family Development Across the Lifespan 3
  - 5100:721 Learning Processes 3

- **Educational Guidance and Counseling**
  - 5600:646 Multicultural Counseling 3
  - 5600:648 Individual and Family Development Across the Lifespan 3
  - 5600:655 Marriage and Family Therapy: Theories and Techniques 3
  - 5600:667 Marital Therapy 3
  - 5600:669 Systems Theory in Family Therapy 3

- **Special Education**
  - 5610:540 Developmental Characteristics of Exceptional Individuals 3
  - 5610:559 Communication and Consultation with Parents and Professionals 3

- **Multicultural Education (Curricular and Instructional Studies)**
  - 5500:571 Characteristics of Culturally Diverse Populations 3

- **Educational Administration**
  - 5170:604 School-Community Relations 3

**POSTSECONDARY TEACHING (540101GC)**

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>5400:528</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>5400:676</td>
<td>Advanced Instructional Applications Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

NOTE: The Instructional Applications Seminar is the last course taken.

**PSYCHIATRIC NURSE PRACTITIONER (820008GC)**

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 3
8200:610 Advanced Adult/Gerontological Assessment 3
8200:611 Advanced Mental Health Assessment 3

Required Courses

8200:662 Clinical Psychopharmacology 3
8200:665 Psychiatric Mental Health-Acute, APN II 3
8200:667 Psychiatric Mental Health-Chronic, APN III 3
8200:666 Psychiatric Mental Health Nursing Post MSN Residency 1-4*

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.

PSYCHIATRIC FAMILY NURSE PRACTITIONER
(820105GC)

The Post-MSN Psychiatric Family Nurse Practitioner certificate program is designed to prepare advanced practice nurses certified as Psychiatric and Mental Health Nurse Practitioners with the competencies required to sit for national certification as a Family Psychiatric and Mental Health Nurse Practitioner. The 13 credit hour program that includes at least 500 hours of supervised practice is built upon a core of advanced assessment, pathophysiology, and advanced psychoneuroimmunology and the Psychiatric Mental Health Nurse Practitioner track.

Required Courses

5600:648 Individual and Family Development 3
5600:660 Counseling of Children 3
8200:650 Advanced Pediatric/Adolescent Assessment 3
8200:663 Psychiatric Mental Health Internship (Required) 1-4

Elective Courses:

(Effective Courses are not required. If the Post-MSN student wishes to take additional coursework, the following courses are recommended)
8200:608 Pathophysiological Concepts 3
8200:610 Advanced Adult/Gerontological Assessment 3
8200:611 Advanced Mental Health Assessment 3

PUBLIC ADMINISTRATION AND URBAN STUDIES

(398007GC: Public Management)
(398008GC: Non-Profit Management)
(398010GC: Policy Analysis)
(398011GC: Program Evaluation)
(398012GC: Urban Affairs)

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) 3
3980:615 Public Organization Theory (required) 3
3980:616 Public Personnel 3
3980:617 Leadership and Decision Making (required) 3
3980:618 Citizenship Participation 3
3980:626 Grantmanship 3
3980:660 Strategic Management in Public and Non-profit Sectors 3
3980:680 Special Topics 3

Non-profit Management

3980:617 Leadership and Decision Making 3
3980:619 Community Organizing 3
3980:626 Grantmanship (required) 3
3980:660 Strategic Management in Public and Non-profit Sectors (required) 3
3980:662 Fund Raising and Resource Management (required) 3
3980:663 Nonprofit Management (required) 3
3980:680 Special Topics 3

Local and Regional Development

3980:602 History of Urban Development (required) 3
3980:612 National Urban Policy 3
3980:619 Community Organizing 3
3980:641 Urban Economic Growth and Development (required) 3
3980:650 Comparative Urban Systems 3
3980:661 Public Project Design and Management (required) 3
3980:680 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

3980:650 Basic Quantitative Research (required) 3
3980:661 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
(300013GC)

An 18 credit graduate certificate that offers students the opportunity to intensively examine racial conflict from an interdisciplinary perspective.

Required Courses:

3700:522 Understanding Racial and Gender Conflict 3
3850:521 Racial and Ethnic Relations 3

Electives:

3700:522 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
3850:510 Social Structure and Personality 3
3850:530 Juvenile Delinquency 3
3850:541 Sociology of Law 3
3230:510 Evolution and Human Behavior 3
### STRUCTURAL ENGINEERING (430006GC)

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 Code</th>
<th>Course 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>
</tbody>
</table>

### SUPPLY CHAIN MANAGEMENT (650202GC)

Supply chain management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain as efficiently as possible. Supply chain professionals are actively involved in key management and coordination functions related to purchasing, contract negotiation, inventory management, transportation, and import/export policies. Today, it would be difficult to find an organization, large or small, that doesn’t understand the importance of supply chain management, and how successful implementation of supply chain management principles can have a positive impact on its overall success.

The Supply Chain Management graduate certificate program has been designed to meet the needs of business professionals who are interested in developing expertise in supply chain operations management. The fifteen credit hour certificate program consists of coursework addressing key aspects of supply chain operations management, including logistics, sourcing, and globalization.

**Requirements (12 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:576</td>
<td>Supply Chain Sourcing</td>
<td>3</td>
</tr>
<tr>
<td>6500:656</td>
<td>Management of Global Supply Chain</td>
<td>3</td>
</tr>
<tr>
<td>6500:675</td>
<td>Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>6520:680</td>
<td>Supply Chain Logistics Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Requirements (Choose 3 credits from the following)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:660</td>
<td>Management and Organization Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6500:662</td>
<td>Supply Chain Operations and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6500:670</td>
<td>Management of Operations</td>
<td>3</td>
</tr>
</tbody>
</table>

### TEACHING ENGLISH AS A SECOND LANGUAGE† (330003GC)

Arthur L. Palacas, Ph.D., Interim 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:573</td>
<td>Seminar in Teaching ESL: Theory and Method</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: Grammatical Structures of English</td>
<td>3</td>
</tr>
<tr>
<td>5500:570</td>
<td>Multicultural Education in the U.S.**</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: Sociolinguistics**</td>
<td>2-3</td>
</tr>
</tbody>
</table>

### TECHNICAL AND SKILLS TRAINING (540100GC)

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

<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>5400:600</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 Curriculum Design in Postsecondary Education</td>
<td>3</td>
</tr>
<tr>
<td>5400:675</td>
<td>Instructional Applications Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

The Instructional Applications Seminar is the last course taken.

### TRANSPORTATION ENGINEERING (430007GC)

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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:564</td>
<td>Highway Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:565</td>
<td>Pavement Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300:566</td>
<td>Traffic Engineering</td>
<td>3</td>
</tr>
<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 (180001GC)

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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840:580</td>
<td>Feminist Theory</td>
<td>3</td>
</tr>
<tr>
<td>1840:589</td>
<td>Internship in Women’s Studies</td>
<td>1-4</td>
</tr>
<tr>
<td>1840:590</td>
<td>Workshop: Women’s Studies Lecture Series</td>
<td>3</td>
</tr>
</tbody>
</table>

*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.*

---

[1] credits from Sociology, Political Science, Anthropology, or History
Electives

Three classes selected from the Women's Studies Coordinating Council-approved list of graduate level courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840:585</td>
<td>Special Topics in Women's Studies: Women, Minorities and Media</td>
<td>3</td>
</tr>
<tr>
<td>1840:585</td>
<td>Special Topics in Women's Studies: Women, Poverty and Welfare</td>
<td>3</td>
</tr>
<tr>
<td>1840:585</td>
<td>Special Topics in Women's Studies: Women as Survivors</td>
<td>3</td>
</tr>
<tr>
<td>1840:585</td>
<td>Special Topics in Women's Studies: Worlds of Women</td>
<td>3</td>
</tr>
<tr>
<td>1840:589</td>
<td>Internship in Women's Studies</td>
<td>1-4</td>
</tr>
<tr>
<td>1840:593</td>
<td>Individual Studies on Women</td>
<td>1-3</td>
</tr>
<tr>
<td>3220:550</td>
<td>ST in Ancient Culture: Women and Gender in Classical Antiquity</td>
<td>3</td>
</tr>
<tr>
<td>3230:516</td>
<td>The Anthropology of Sex and Gender</td>
<td>3</td>
</tr>
<tr>
<td>3230:572</td>
<td>Women in Antiquity</td>
<td>3</td>
</tr>
<tr>
<td>3300:553</td>
<td>American Women Poets</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: Twentieth Century Women Writers</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: Women and Film</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: Subversive Women</td>
<td>3</td>
</tr>
<tr>
<td>3300:589</td>
<td>Seminar in English: British Women Writers</td>
<td>3</td>
</tr>
<tr>
<td>3400:500</td>
<td>Women in Revolutionary China</td>
<td>3</td>
</tr>
<tr>
<td>3400:593</td>
<td>Special Studies: Women Film and History</td>
<td>4</td>
</tr>
<tr>
<td>3400:593</td>
<td>Special Studies: Women in the Middle East</td>
<td>3</td>
</tr>
<tr>
<td>3400:593</td>
<td>Special Studies: Medieval Women</td>
<td>3</td>
</tr>
<tr>
<td>3700:522</td>
<td>Understanding Racial and Gender Conflict</td>
<td>3</td>
</tr>
<tr>
<td>3850:555</td>
<td>Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>3850:639</td>
<td>Sociology of Gender</td>
<td>3</td>
</tr>
<tr>
<td>7100:501</td>
<td>Special Topics in History of Art: Women in Art</td>
<td>3</td>
</tr>
<tr>
<td>7400:595</td>
<td>Seminar: Women and Food</td>
<td>1-3</td>
</tr>
<tr>
<td>7600:508</td>
<td>Women, Minorities, and News</td>
<td>3</td>
</tr>
<tr>
<td>7750:511</td>
<td>Women's Issues in Social Work Practice</td>
<td>3</td>
</tr>
<tr>
<td>9200:654</td>
<td>Seminar: Feminist and Race Theory</td>
<td>3</td>
</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
1800 Divorce Mediation 3000 Cooperative Education
1820 Home-Based Intervention Therapy 3006 Institute for Lifespan Development and Gerontology
1840 Women’s Studies

Buchtel College of Arts and Sciences
3100 Biology 3500 Modern Languages
3110 Biology/NEOUCOM 3501 Arabic
3115 Public Health 3502 Chinese
3150 Chemistry 3510 Latin
3200 Classics 3520 French
3220 Anthropology 3530 German
3240 Archaeology 3550 Italian
3250 Economics 3580 Spanish
3300 English 3600 Philosophy
3350 Geography and Planning 3650 Physics
3370 Geology 3700 Political Science
3400 History 3750 Psychology
3450 Mathematics 3850 Sociology
3460 Computer Science 3980 Public Administration
3470 Statistics 4000 Urban Studies
3490 Engineering Applied Mathematics

College of Engineering
4100 General Engineering 4300 Mechanical Engineering
4200 Chemical Engineering 4400 Electrical Engineering
4300 Civil Engineering 4450 Computer Engineering
4300 Computer Science 4600 Biomedical Engineering

College of Education
5100 Educational Foundations 5550 Physical Education
5105 Leadership and Administration 5560 Outdoor Education
5110 Instructional Technology 5570 Health Education
5170 General Administration 5600 Educational Guidance
5190 Higher Education Administration 5610 Educational and Counseling
5400 Postsecondary Technical Education 5620 School Psychology
5500 Curricular and Instructional Studies 5800 Special Educational Programs

College of Business Administration
6200 Accountancy 6600 Marketing
6300 Entrepreneurship 6700 Professional
6400 Finance 6800 International Business
6500 Management

College of Creative and Professional Arts
7100 Art 7600 Communication
7500 Music 7800 Theatre
7510 Musical Organizations 7810 Theatre Organizations
7520 Applied Music 7920 Dance Performance

College of Health Sciences and Human Services
7400 Family and Consumer Sciences 7750 Social Work
7700 Speech Language Pathology and Audiology

College of Nursing
8200 Nursing

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

Interdisciplinary Programs

DIVORCE MEDIATION 1800:

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
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 will be on 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 students 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. Guest speakers from various disciplines and services which have life-span development and gerontological components and from government and community facilities and service.

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.

* 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 taught and the point at which the student is ready to take the course. A student must apply for and be admitted to the Graduate School before registering for graduate credit.

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
561.2 HUMAN PHYSIOLOGY 4 credits
Detailed study of function of the human body with special emphasis on neuroanatomy, cardiovascular, respiratory, renal and endocrine physiology. Laboratory.

565 ADVANCED CARDIOVASCULAR PHYSIOLOGY 3 credits
Study of biological mechanisms involved in heart attack, strokes, fluid balance, hypertension and heart disease. Correlated with other laboratory courses in physiology.

566 VERTEBRATE EMBRYOLOGY 4 credits
Lectures focus on development of model vertebrate organisms and cellular and molecular mechanisms underlying animal development. Laboratory focuses on frog and chick development.

567 COMPARATIVE VERTEBRATE MORPHOLOGY 4 credits
An introduction to the comparative morphology of major vertebrates. The laboratory consists of dissections of representative vertebrates.

568 THE PHYSIOLOGY OF REPRODUCTION 3 credits
Study of the physiological mechanisms of reproduction throughout the animal kingdom with special emphasis upon mammalian endocrinological control. Correlated with 567 will be examined and current research presented.

569 RESPIRATORY PHYSIOLOGY 3 credits
Study of mechanisms determining gas exchange including mechanics, ventilation, blood flow, diffusion, and control systems. Emphasis is given to normal human lung function. Clinical aspects are not considered in detail.

570 LAB ANIMAL REGULATIONS 1 credit
Required of anyone working with animals, and covers government regulations, care of animals and a lab to teach basic animal handling and measurement techniques.

571 PHYSIOLOGICAL GENETICS 4 credits
The integrative study of how genetics and physiology influence complex systems from molecular to behavioral in plants and animals. Laboratory.

572 BIOLOGICAL MECHANISMS OF STRESS 3 credits
Study of mechanisms from micro to behavioral of how stress influences body systems and signals. The latest research and experimental issues are discussed.

573 COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY 1 credit
Laboratory experiments in animal physiology (respiration, circulation, metabolism, osmoregulation). Presentation of results in scientific format and as oral reports.

580 MOLECULAR BIOLOGY 3 credits
Fundamentals of molecular biology, including recombinant DNA technology, applications in biotechnology, medicine, and genetic engineering. Mechanisms of gene regulation.

581 ADVANCED GENETICS 3 credits
Nature of the gene; genetic codes; hereditary determinants; mutagenesis and genes in population. Lecture and seminar.

582 NEUROBIOLOGY 3 credits
History of neuroscience; organization, function and development of the central nervous system; electrophysiological properties of nerve cells, learning and memory; molecular basis for mental diseases.

585 CELL PHYSIOLOGY 4 credits
Explores molecular and biochemical aspects of energy metabolism, intracellular and intercellular signaling, growth and death of cells. Emphasizes up-to-date scientific literature and techniques. Laboratory.

589 BIOLOGICAL PROBLEMS 3-12 credits each
Prerequisite: permission. Honors-level work, usually consisting of laboratory investigations. A maximum of 4 credits may apply toward the major degree requirements.

601 EVOLUTIONARY ECOLOGY 3 credits
Advanced study of species and populations, community and ecosystem dynamics. Emphasis on understanding the historical and ecological processes that have resulted in the evolution of species and communities.

604 TOPICS IN INTEGRATIVE BIOLOGY 2 credits
Reading, critical analysis, presentation, discussion and debate of cutting edge biological research with an emphasis on understanding the integrative approach to biological investigation.

616 GRADUATE EVOLUTIONARY BIOLOGY 4 credits
A survey of theory and methods in evolutionary biology, including evolutionary genetics, natural selection, drift, mating systems, trait integration, plasticity, phylogenetics, and paleontology.

617 GRADUATE ECOLOGY 3 credits
Advanced training for students pursuing a professional academic career in ecology or associated disciplines. Exploration of interactions at the organismal, population, community, and ecosystem levels.

618 EXPERIMENTAL APPROACHES IN FIELD ECOLOGY 4 credits
Prerequisite: Graduate status. Field oriented course intended to help students learn to formulate questions and hypotheses, design field studies, and analyze and interpret data, and present conclusions. Laboratory.

624 ADVANCED AQUATIC ECOLOGY 4 credits
Prerequisite: permission. This course examines interactions between aquatic organisms and their environment across freshwater and marine systems. It includes primary literature, field trips, and student-designed experiments.

625 BASIC DNA TECHNIQUES 3 credits
Basic DNA techniques including extraction of DNA, cleavage of DNA and cloning. Laboratory.

626 TECHNIQUES IN MOLECULAR BIOLOGY 3 credits
Discussion of current techniques in molecular biology such as microscopy, cell culture, gene expression, and protein analysis. Laboratory.

628 ADVANCED TOPICS IN BEHAVIOR 3 credits
Prerequisites: 529 or equivalent. Advanced studies of topics in behavior, emphasizing current scientific literature.

651 ENTOMOLOGY 4 credits
Prerequisite: Graduate standing. Insect ecology and evolution. Adaptable to behavioral studies of insects and their relatives. Laboratory stresses field exercises and collections.

663 ENVIRONMENTAL PHYSIOLOGY 3 credits
Prerequisites: 501, 529. Study of physiological reactions of healthy mammals to natural changes or extremes of physical environment.

665 HISTOLOGY, CELL BIOLOGY, AND INTRODUCTORY PATHOLOGY 4 credits
This course integrates cell biology and histology to show how organs are structured and function and how they are altered during sample pathologies. Laboratory.

670 MEDICAL PHYSIOLOGY, PATHOPHYSIOLOGY, AND PHARMACOLOGY 3 credits
Prerequisite: Admission to M.S.N. program, or 530. Study of principles of human physiology, pathophysiology, and pharmacology are examined in depth, interpreted, and related to the care of patients in the clinical setting.

671 DEVELOPMENTAL BIOLOGY 4 credits
Study of the cell and molecular mechanisms underlying animal development. Laboratory.
673 INTEGRATIVE STRESS PHYSIOLOGY 3 credits
Prerequisite: B.S. in Biology equivalent. This course is designed to examine the behavioral, physiological, genomic, and molecular mechanisms of how various types of stressors affect the organism.

674 INTEGRATED CARDIOVASCULAR PHYSIOLOGY 3 credits
Prerequisite: B.S. in Biology or equivalent. Integration of epidemiological, behavioral, physiologi-
cal, molecular, and genetic mechanisms of cardiovascular function in health and disease.

675 INTEGRATIVE PHYSIOLOGICAL GENOMICS 4 credits
Prerequisite: B.S. in science discipline. This course uses methodologies from genetics and
physiology in an integrated approach to studying whole body systems.

676 INTEGRATIVE PHYSIOLOGY 3 credits
Exploration of the integrative nature of physiology through lecture, reading, and critical analy-
sis of current literature.

3 credits
SYSTEMS PHYSIOLOGY
Study of the complex nature of specific physiological systems both as separate entities and
interacting units.

681 CYTOLOGY 4 credits
The study of how a cell’s structure, biochemistry, metabolism, and molecular biology integrate
to produce cell function. Laboratory.

683 SELECTED TOPICS IN MICROBIOLOGY 3 credits
The study of organization, function, and development of the vertebrate nervous system.

685 ADVANCED CELL PHYSIOLOGY 3 credits
Structure and functional organization of cells at ultrastructural level. Three lecture hours a week.

688 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY 3 credits
Modern cytological methods using transmission electron microscopy. Portfolio required to
demonstrate proficiency in fixation techniques, use of ultramicrotome, light and electron
microscopes and darkroom techniques.

689 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY 3 credits
An introduction of modern cytological methods using the scanning electron microscope. A
portfolio required to demonstrate proficiency in fixation techniques, the use of supplemen-
tal equipment such as the critical point drying apparatus and the sputtering apparatus and
the use of the scanning electron microscope.

695 SPECIAL TOPICS: BIOLOGY 1-3 credits
May be repeated. Prerequisite: permission. Special courses offered once or only occasional-
ly in areas where no formal course exists.

697 BIOLOGY COLLOQUIUM 1 credit each
May be repeated. Prerequisite: Permission. Attendance at all departmental seminars and pre-
sentation of seminar based on original research. Required of all thesis option students who
shall present their thesis research.

699 MASTER’S THESIS 1-6 credits
May be repeated. A minimum of six credits is required for thesis option student.

701 RESEARCH TECHNIQUES IN INTEGRATED BIOGEOCHEMISTRY 4 credits
Students will learn standard, common techniques that are applicable across broad areas of
research in integrated biogeochemistry.

702 COMMUNICATING IN INTEGRATED BIOGEOCHEMISTRY 2 credits
Communication of science topics to professionals of a broad audience. Students present their
topics in areas of expertise to other (non-)discipline students in the course.

703 PROBLEM SOLVING IN INTEGRATED BIOGEOCHEMISTRY 3 credits
Prerequisite: 702. Students will learn how to study complex systems and get hands-on expe-
rience working in interdisciplinary teams.

707 INTEGRATED BIOGEOCHEMISTRY COLLOQUIUM 1 credit
Prerequisite: Permission. Seminars of original research from a broad range of biogeochemistry-relat-
ed disciplines.

899 DOCTORAL DISSERTATION 1-12 credits
Original research by the doctoral student.

BIOLOGY/NEOUCOM 3110:

630 HUMAN GROSS ANATOMY I 3 credits
Prerequisites: Graduate standing. MCAT section scores of 8 or above.

631 HUMAN GROSS ANATOMY II 3 credits
Prerequisites: graduate standing and permission. Graduate standing.

695 SPECIAL TOPICS: BIOLOGY/NEOUCOM 1-6 credits
Prerequisites: permission of instructor. Advanced topics in medical education covering areas
not otherwise available. May be repeated with a change in topic.

PUBLIC HEALTH 3115:

601 PUBLIC HEALTH CONCEPTS 3 credits
Prerequisite: Admission to the MPH program. Organizational structure, history, law, ethics,
essential services, global problems, and future of public health.

602 SOCIAL AND BEHAVIORAL SCIENCES IN PUBLIC HEALTH 3 credits
Prerequisite: Admission to the MPH program. Theories of health education and promotion;
interactions (communication, collaboration, and strategies); socio-cultural, diversity, and
regional issues as pertains to public health.

603 EPIDEMIOLOGY IN PUBLIC HEALTH 3 credits
Prerequisite: Admission to the MPH program. Epidemiological concepts, methods, and pub-
lic health applications. Student presentations to focus on special topics such as infectious dis-
eases, chronic conditions, etc.

604 BIOSTATISTICS IN PUBLIC HEALTH 3 credits
Prerequisite: Admission to MPH program. Basic biostatistics, basic statistical inference, mul-
tiple regression/ANOVA, correlation and prediction, power analysis.

605 HEALTH SERVICES ADMINISTRATION IN PUBLIC HEALTH 3 credits
Prerequisite: Admission to the MPH program. Management principles, planning and evalua-
tion, grant-writing, economics, policy, data sources, and applications to public health.

606 ENVIRONMENTAL HEALTH SCIENCES IN PUBLIC HEALTH 3 credits
Prerequisite: Admission to the MPH program. Air/water quality, food Hygiene, sanitation, solid
waste management, hazardous materials management, vectorborne disease, occupational
health, legal issues, environmental hazard identification and response.

608 PUBLIC HEALTH PRACTICE AND ISSUES 3 credits
Prerequisites: 601, 602, 603, 604. Communication, diversity, cultural proficiency, biology, and ethics are applied in a public health organizational practice setting. This is a required online practice-based course.

610 GRANT WRITING IN PUBLIC HEALTH PRACTICE 3 credits
Prerequisite: Prior to the Program. Elective course for MPH students with mini-

689-699 SPECIAL TOPICS IN PUBLIC HEALTH 1-5 credits
Special topic sections will focus on specific topics of current interest in public health.

695 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of academic advisor and instructor. Includes research or other indi-

garduate/undergraduate major requirements in chemistry.

696 A Dissertation 1 credit each

698 WORKSHOP IN CHEMISTRY 1-3 credits
May be repeated. Group studies of special topics in chemistry. May not be used to meet

600 BIOCHEMISTRY LECTURE I 3 credits
Prerequisite: Graduate status or permission of department. Biochemistry of amino acids, car-
bohydrates, lipids, and nucleic acids: structure/function relations. Enzymes as catalysts: kinet-
ics and regulation. Cofactors.

500 BIOCHEMISTRY LECTURE II 3 credits
Prerequisite: 501, graduate status, or permission of department. Overview of metabolism: ther-
dodynamics; carbohydrates, fatty acid, amino acid, and nucleotide anabolism and catabolism;
membrane control of metabolism. Photosynthesis.

525 ADVANCED INORGANIC CHEMISTRY 3 credits
Prerequisites: Graduate standing and permission. Concepts of atomic structure inte-

designed for students who do not yet have the necessary skills to succeed in the course.

526 SPECIAL TOPICS: CHEMICAL EDUCATION 1-3 credits
May be repeated up to 6 credits. Consideration of topics in chemical education.

530 BIOCHEMISTRY LECTURE III 3 credits
Prerequisites: 501 and 502, graduate status or permission of department. DNA, RNA and pro-
tein metabolism. Translation and transcription. Gene function and expression.

531 BASIC QUANTUM CHEMISTRY 3 credits
Prerequisites: Graduate status or permission of department. Quantum mechanics and its appli-
cations to molecular systems. Includes angular momentum, molecular hamiltonians, vibration
and vibration methods and molecular orbital theories.

545 SPECTROSCOPY 3 credits
Prerequisite: 690; graduate status or permission of department. Interaction of light with mat-
ter, linear and nonlinear spectroscopies. Raman, vibrational and electronic spectroscopy.

550 TRANSITION- METAL ORGANOMETALLICS 3 credits
Prerequisites: Graduate status or permission of department. The organometallic chemistry of the
transition metal elements. Topics covered include synthesis, characterization methods, structure,
function, bonding, reactivity, and applications.

600 MAIN GROUP ORGANOMETALLICS 3 credits
Prerequisites: Graduate status or permission of department. The organometallic chemistry of
main group elements. Topics covered include synthesis, characterization methods, structure,
bonding, reactivity, and applications.

625 CHEMISTRY SEMINAR 1 credit
Prerequisite: Graduate status or permission of department. Lectures on current research top-
ics in chemistry by invited speakers.

629 PHYSICAL INORGANIC CHEMISTRY 3 credits
Prerequisites: Graduate status or permission of department. Detailed treatment of chemistry
of transition elements. Group theoretical applications, ligand field theory, kinetics and mecha-
nism, magnetism, electronic spectra, molecular orbital theory.

630 THEORETICAL INORGANIC CHEMISTRY 2 credits
Prerequisites: 628, graduate status or permission of department. Detailed treatment of chem-
istry of transition elements. Group theoretical applications, ligand field theory, kinetics and mecha-
nism, electronic spectra, molecular orbital theory.

631 METALS IN MEDICINE 3 credits
Prerequisite: 572, graduate status or permission of department. This course will cover the syn-
thesis and development of metal based medicines including the tumor drug taxol, tech-
nonuclear radioisotopes for killing cancer cells.

635 THERMODYNAMICS AND STATISTICAL THERMODYNAMICS 3 credits
Prerequisites: Graduate status or permission of department. Rigorous treatment of laws of
thermodynamics and their application to selected chemical systems. Fundamentals of sta-
tistical thermodynamics and applications to systems in chemical equilibrium.

636 CHEMICAL KINETICS 3 credits
Prerequisites: 525, graduate status or permission of department. Phenomenological kinetics,
experimental methods of investigation and analysis of reaction systems. Theoretical treat-
ments of reaction rates.

640 CHEMICAL SEPARATIONS 3 credits
Prerequisites: 545, graduate status or permission of department. Theory and application of instru-
mental measurements. Determination of data.

645 X-RAY CRYSTALLOGRAPHY 3 credits
Prerequisite: Graduate status or permission of department. The physical and practical aspects of single crystal x-ray crystallography are discussed. Topics covered include diffraction, space groups, structure solution and refinement.
### Graduate Courses

**3240:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
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<tbody>
<tr>
<td>500</td>
<td>ARCHAEOLOGICAL THEORY</td>
<td>3 credits</td>
<td>Permission. Advanced seminar covering history of scientific archaeological exploration, major theoretical paradigms, and current trends in archaeology. Required for Certificate in Field Archaeology.</td>
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<tr>
<td>510</td>
<td>ARCHAEOGEOGRAPHICAL SURVEY</td>
<td>3 credits</td>
<td>Permission. Advanced instruction in principles of subsurface geophysical survey techniques in archaeology. Emphasizes magnetic gradiometry and electrical resistivity techniques. Includes both laboratory and fieldwork.</td>
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<tr>
<td>520</td>
<td>ARCHAEOLOGY OF OHIO</td>
<td>3 credits</td>
<td>Permission. Provides detailed overview of Ohio's prehistoric cultures and the historic period focusing on cultural evolution and environmental relationships.</td>
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<tr>
<td>540</td>
<td>ARCHAEOLOGICAL LABORATORY METHODS</td>
<td>2 credits</td>
<td>Permission. Advanced laboratory processing of lithic, ceramic, paleo-faunal, paleobotanical, metallic, archaeological materials. Emphasizes various techniques and applications. Involves instrumental or statistical analysis.</td>
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<tr>
<td>550</td>
<td>ARCHAEOLOGICAL FIELD SCHOOL</td>
<td>1-6 credits</td>
<td>Permission. Field-based course teaching basic archaeological techniques: mapping, excavation of prehistoric and historic sites, survey and documentation. Repeatable for up to six credits.</td>
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<tr>
<td>560</td>
<td>SPECIAL TOPICS IN ARCHAEOLOGY</td>
<td>1-6 credits</td>
<td>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 school, laboratory research or advanced course work not presently offered by department on a regular basis. Repeatable for up to six credits.</td>
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**3250:**

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<tr>
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<tbody>
<tr>
<td>506</td>
<td>STATE AND LOCAL PUBLIC FINANCE</td>
<td>3 credits</td>
<td>Permission. Admittance to the master's program in Economics or permission. Examines economic rationale and problems for provision of goods and services by different governmental units. Considers alternative revenue sources and special topics.</td>
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<tr>
<td>523</td>
<td>APPLIED GAME THEORY</td>
<td>3 credits</td>
<td>Permission. Admission to the master's program in Economics or permission. Application of the basic concepts of game theory (analysis of strategic behavior) to relevant economic issues including bargaining, cartels, voting, conflict resolution, and non-competitive pricing.</td>
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<tr>
<td>527</td>
<td>ECONOMIC FORECASTING</td>
<td>3 credits</td>
<td>Permissions. Admission to the master's program in Economics or permission. Study of methods for fuller understanding, forecasting, and checking dynamic economic models and the use of these models for forecasting. Emphasis is on the application of available computer software and economic data.</td>
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<tr>
<td>530</td>
<td>LABOR MARKET AND SOCIAL POLICY</td>
<td>3 credits</td>
<td>Permission. Admission to the master's program in Economics or permission. Intensive study of current labor and social policy issues (e.g. discrimination, poverty, migration, education, demographic and labor market changes, impact of international trade on employment).</td>
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<td>534</td>
<td>LABOR MARKET ANALYSIS AND EVALUATION</td>
<td>3 credits</td>
<td>Permissions. Admittance to the master's program in Economics or permission. Applied labor market research using specialized techniques. Employment, health, education, and other current policy issues and programs analyzed and evaluated. Original research project required.</td>
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<tr>
<td>536</td>
<td>HEALTH ECONOMICS</td>
<td>3 credits</td>
<td>Permission. Permission of instructor. Economic analysis of health care. Stressors affecting health, includes study of demand and supply of medical services and insurance, analysis of health care industries.</td>
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<tr>
<td>538</td>
<td>ECONOMICS OF SPORTS</td>
<td>3 credits</td>
<td>Permission. 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.</td>
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<tr>
<td>540</td>
<td>SPECIAL TOPICS: ECONOMICS</td>
<td>3 credits</td>
<td>Permission. Opportunity to study special topics and current issues in economics.</td>
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<tr>
<td>550</td>
<td>ECONOMICS OF DEVELOPMENT</td>
<td>3 credits</td>
<td>Permission. Admission to the master's program in Economics or permission. Basic problems of economic development. Theories of economic development, issues of political economy and institutions. Topics include poverty, population, migration, employment, finance, international trade, environment.</td>
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<tr>
<td>561</td>
<td>PRINCIPLES OF INTERNATIONAL ECONOMICS</td>
<td>3 credits</td>
<td>Permission. Admittance to the master's program in Economics or permission. International trade and foreign exchange, policies of free and controlled trade, international monetary problems.</td>
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<tr>
<td>576</td>
<td>DEVELOPMENT OF ECONOMIC THOUGHT</td>
<td>3 credits</td>
<td>Permission. Admission to the master's program in Economics or permission. Evolution of theory and method, relation of ideas of economists contemporary to conditions.</td>
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</table>
581 MONETARY AND BANKING POLICY 3 credits
Prerequisites: Admission to the master’s program in Economics or permission. Control over current monetary and credit, policies of control by central banks and governments, United States Treasury and Federal Reserve System.

587 URBAN ECONOMICS: THEORY AND POLICY 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Analysis of urban economics from an economic perspective. Emphasis on urban growth, land-use patterns, housing, income distribution, poverty and urban fiscal policy.

589 WORKSHOP IN ECONOMICS 3 credits
May be repeated. Group studies of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit only.

600 FOUNDATIONS OF ECONOMIC ANALYSIS 3 credits
Prerequisite: graduate standing. Determination of national income, employment and price level; aggregate consumption, investment and asset holdings; decision problems faced by households and firms. Partial and general equilibrium analysis of competition and monopoly and general equilibrium analysis. May not be substituted for 602, 603, 611, or applied toward the 30 graduate credits required for a master in economics.

620 MACROECONOMIC ANALYSIS I 3 credits
Construction of static macroeconomic models. Analysis predominantly in terms of comparative statics with only relatively brief mention of dynamic models.

626 STATISTICS FOR ECONOMETRICS 3 credits
Prerequisites: courses in elementary differential and integral calculus, 6500:321, 322, or equivalent. An introduction to statistics with only relatively brief mention of dynamic models.

628 SEMINAR IN RESEARCH METHODS 3 credits
Prerequisite: Permission of instructor. Examines the role of research in economic analysis and research design.

664 SEMINAR ON ECONOMIC GROWTH AND DEVELOPMENT 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Review of main theories of economic growth since age of classical economics. Problems in measurement and effects of monopoly power, industrial concentration and changes.

671 INTERNATIONAL TRADE 3 credits
Prerequisite: Permission of instructor. Examines link between market structure, firm conduct and economic performance. Measurement and effects of monopoly power, public ownership and concentration of trade.

683 MONETARY ECONOMICS 3 credits
Prerequisite: 611 or permission. Examines link between market structure, firm conduct and economic performance. Measurement and effects of monopoly power, public ownership and concentration of trade.

695 GRADUATE INTERNSHIP IN ECONOMICS 3 credits
May be repeated. Group studies of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit only.

697 MIDDLE ENGLISH LITERATURE 3 credits
Study of genres, topics, styles and writers of the Middle English literary works from 12th to 16th centuries. Readings in Middle English.

712 SWIFT AND POPE 3 credits
An intensive study of the major satires of Swift and Pope. Concentration on the rhetorical strategies of each author within the context of the shifting intellectual and cultural milieu at the end of the 17th and beginning of the 18th Centuries.

724 EARLY ENGLISH FICTION 3 credits
Development of English novel before 1830. Focus on works of Defoe, Richardson, Fielding, Smollett, Sterne, A Lane and other writers.

730 VICTORIAN POETRY AND PROSE 3 credits
Poetry, prose of the late 19th Century, excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin and other major writers.

731 VICTORIAN FICTION 3 credits
Reading major novels of Victorian era: of varying length, by Emily Bronte, Dickens, Elliott, Thackeray, and Hardy. Characteristics of the novel, and attitude toward life emphasized.

735 20TH CENTURY BRITISH POETRY 3 credits
Concentrated study of major poets of Yeats, Eliot, and Auden with attention also to Hardy, Housman, Spender, C. Day Lewis, Dylan Thomas and others.

736 BRITISH FICTION 1900-1914 3 credits
Study of Conrad, Joyce, D.H. Lawrence, and Virginia Woolf with attention to their innovations in narrative style, their psychological realism and symbolism.

737 BRITISH FICTION SINCE 1925 3 credits
Study of important British novelists since 1925, excluding Lawrence, Joyce, and Woolf. Attention to development of British short story from 1925 to present.

591 WORKSHOP IN ECONOMICS 3 credits
May be repeated for a total of six credits.

589 WORKSHOP IN ECONOMICS 3 credits
May be repeated for a total of six credits.

587 URBAN ECONOMICS: THEORY AND POLICY 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Analysis of urban economics from an economic perspective. Emphasis on urban growth, land-use patterns, housing, income distribution, poverty and urban fiscal policy.

589 WORKSHOP IN ECONOMICS 3 credits
May be repeated. Group studies of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit only.
699 MASTER’S THESIS
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
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
Prerequisites: 505 or permission. Advanced instruction in the theory and application of geographic information systems (GIS) including hands-on experience with both raster and vector GIS. Laboratory.

509 ARCHAEOGEOPHYSICAL SURVEY
Prerequisites: Permission. Advanced instruction in subsurface geophysical survey techniques in archaeology. Emphasis on magnetic gradiometry 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
Special structure of urban systems; interaction between cities; internal structure of cities. Perspectives on urban change; contemporary urban geographic problems; urban and regional planning issues.

522 TRANSPORTATION SYSTEMS PLANNING
Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.

524 MILITARY GEOGRAPHY
Influence of physical and human geography on military operations and military history. Role played by geography in international conflicts.

523 LAND USE PLANNING LAW
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.

533 PRACTICAL APPLICATIONS TO PROJECTION METHODS
Role of geographic investigation in city, regional and resource planning.

537 PLANNING ANALYSIS AND PROJECTION METHODS
Introduction to the primary analytic techniques for small-area demographic and economic analysis and projection.

539 LAND USE PLANNING METHODS
Application of GIS and other computer-based tools to the preparation, implementation and evaluation of comprehensive land use plans.

539 HISTORY OF URBAN DESIGN AND PLANNING
Origins of human settlements and planning from the perspective of urban design and related societal trends. Comparison of world regional and historical urban forms. Experience in “reading” settlements as visual landscapes.

540 CARTOGRAPHY
Theoretical and practical applications of cartographic principles used to design and produce maps for research reports, public presentations, publication, and other professional uses.

541 GLOBAL POSITIONING SYSTEMS (GPS)
Fundamentals of Global Positioning Systems (GPS), with emphasis on geographic and planning activities. Includes hands-on exercises.

542 CARTOGRAPHIC THEORY AND DESIGN
Prerequisite: 540 or permission. Principles and techniques of thematic mapping. Stresses maps as communication tools. Examines principal thematic mapping techniques and methods of presenting quantitative and qualitative data. Laboratory.

543 URBAN APPLICATIONS IN GIS
Prerequisites: 505 or permission. Applications of GIS in the urban context, including methods used for analysis of population density gradients, migration, and accessibility.

544 APPLICATIONS IN CARTOGRAPHY AND GEOGRAPHIC INFORMATION SYSTEMS
Prerequisite: 505, 540, or permission. Application of analytic and presentation techniques from cartography and geographic information systems to practical problems in geographic and planning laboratory.

545 GIS DATABASE DESIGN
Prerequisites: 505 or permission. Introduction to theory and concepts of geographic data modeling, geodatabase design, and topology. Emphasis on current practices and methodologies in geography and planning.

546 GIS PROGRAMMING AND CUSTOMIZATION
Prerequisites: 505 or permission. Introduction to use of scripting languages for customizing the interface and extending the functionality of desktop GIS software.

547 REMOTE SENSING
Concepts, systems, and methods of applying aerial photography, satellite imagery, and other remote-sensing data for analyzing geographic, geological, and other earth phenomena. Laboratory.

549 ADVANCED REMOTE SENSING
Prerequisites: 547 or permission. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies. Laboratory.

550 DEVELOPMENT PLANNING
A study of planning concepts and techniques for developing countries, including growth and development, planning agencies, regional inequities and alternative approaches.

560 POLITICAL GEOGRAPHY
Principles and theory in contemporary domestic and international political geographies. Emphasis on the changing local and global patterns of electoral politics, security, and diplomacy.

581 RESEARCH METHODS IN GEOGRAPHY AND PLANNING
Research in survey and archive resources. Emphasis on development of professional writing skills.

583 SPATIAL ANALYSIS
Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.

589 SPECIAL TOPICS IN GEOGRAPHY
(May be repeated) Selected topics of interest in geography.

590 WORKSHOP IN GEOGRAPHY
May be repeated for a total of six credits. Group studies of special topics in geography.
661 GEOLOGIC RECORD OF PAST GLOBAL CHANGE 3 credits
Prerequisite: equivalent of baccalaureate degree in geology or permission of instructor. Study of the geologic record of past global climate and environmental change from geochemical, paleontological, sedimentological and other geological evidence.

674 ADVANCED GROUNDWATER HYDROLOGY 3 credits
Prerequisite: Admission to the Geology master’s program or permission. Study of water table and groundwater issues under steady and nonsteady state conditions. Collection and analysis of field data with regard to theory. Water well and wellfield 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 importance. Entails lectures, readings, discussions and/or guided laboratory work.

688 ADVANCED INDIVIDUAL READINGS IN GEOLOGY 1-4 credits
Prerequisite: Permission of graduate advisor. Directed readings to fit individual student programs. (May be repeated for a maximum of nine credits)

689 GEOLOGY TEACHING PRACTICUM 2 credits
Graduate student must have a satisfactory performance. Training and experience in college teaching of geology under supervision of experienced faculty. May be repeated for a maximum of 8 credits. Credit/No credit.

696 GEOLOGY COLLOQUIUM 1 credit
Lecture on current topics in geological sciences and thesis proposals and defenses by graduate students. May be repeated. Does not satisfy degree requirements.

698 GRADUATE RESEARCH PROBLEMS 1-3 credits
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.

699 MASTER’S THESIS 1-6 credits
Independent and original investigation. Must be successfully completed, report written and defended before a committee.

HISTORY 3400:

500 GENDER AND CULTURE IN CHINA 3 credits
Prerequisite: Graduate standing. This course examines the dynamic between gender and cultural movements, Japan’s drive to create an empire in East and Southeast Asia, 1895-1945, and its role in the Pacific War, 1947-1945.

501 JAPAN AND THE PACIFIC WAR, 1895-1945 3 credits
The rise of Japanese militarism, Japan’s role in the Pacific War, 1937-1945, 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.

505 IMPERIAL SPAIN, 1469-1700 3 credits
Prerequisite: For M.A. and Ph.D. students only. This course examines the rise and fall of Spain as the first world power. It covers Spanish political, cultural, and social history, 1498-1700.

510 HISTORY AND FILM 3 credits
Examines 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

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 transition from the Middle Ages to modern times (350-1600). Special emphasis on intellectual trends, the development of humanism, and the fine arts.

525 THE REFORMATION 3 credits
Emphasis is on the Century; its religious, cultural, political and diplomatic development, with special emphasis on Protestant, Anglican and Catholic reformation.

529 EUROPE IN THE FRENCH REVOLUTIONARY ERA, 1789-1815 3 credits
Study of Europe between the years of 1789 and 1815 with emphasis on the rise and fall of the French Revolution.

538 NAZI GERMANY 3 credits
Prerequisite: Graduate student status. Special studies in the history of Nazi Germany (Rio Grande to the Andes). See department office for information on particular offerings.

540 THE EARLY AMERICAN REPUBLIC 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 considers the history of the American colonies 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.

555 THE ORIGINS OF MODERN AMERICA, 1877-1917 3 credits
United States from Reconstruction Era to World War I (1877-1920); emphasis on political personalities; problems of reconstruction and the new Union.

556 AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945 3 credits
World War I and Versailles; the 1920s, the Great Depression and the New Deal; World War II.

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 1870 3 credits
This course will examine the evolution of constitutional government as well as civil liberties and individual rights from the Civil War to the present.

565 AMERICAN ECONOMY SINCE 1900 3 credits
Survey of economic developments since 1900; topics include agriculture, business and labor. Emphasis on role of big business and evolution of monetary and fiscal policy.

567 HISTORY OF AMERICAN POP CULTURE 3 credits
Historical analysis of mass cultural phenomena and the social experiences associated with mass technologies that transformed modern American life in the nineteenth and twentieth centuries.

568 AFRICAN-AMERICAN SOCIAL AND INTELLECTUAL HISTORY 3 credits
Examines the role of African and African-American culture, conditions facing black people within America and efforts toward coordinated black activity.

569 AFRICAN-AMERICAN WOMEN’S HISTORY 3 credits
Study of black American women’s lives from colonial times to the present featuring autobiographies, fictional, and secondary works authored by black women.

570 OHIO HISTORY 3 credits
Political, social, economic and intellectual history of Ohio, with special emphasis on Ohio’s 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, environmental issues.

576 CENTRAL AMERICA AND THE CARIBBEAN 3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on popular and peasant movements, political reform, social revolution, economic and underdevelopment, and relations with the United States.

582 WAR AND WESTERN CIVILIZATION 3 credits
World and society in Europe and America and beyond from ancient world to present with special emphasis on period since 1400.

584 HISTORY MUSEUMS AND ARCHIVES 3 credits
This course will focus on the work of history museums, historical societies and historical houses, archives, and museums.

585 HISTORY, COMMUNITIES, AND MEMORY 3 credits
Course examines the interactions of the work of academic historians and the public in areas such as local history, monuments, oral history, film, and the internet.

587 SCIENCE AND TECHNOLOGY IN WORLD HISTORY 3 credits
Prerequisite: Six credits of 3400 course or permission of instructor. This course examines the development and diffusion of science and technology in human history, its impact on society, culture, and daily life.

588 OTTOMAN STATE AND SOCIETY 3 credits
Explores political, economic, and social dynamics of one of the world’s most enduring and expansive multiethnic empires.

593 SPECIAL STUDIES: NORTH AMERICAN HISTORY 3 credits
Prerequisite: Graduate student status. Special studies in the history of North America (Rio Grande to the Arctic). See department office for information on particular offerings.

595 SPECIAL STUDIES: EUROPEAN HISTORY 3 credits
Prerequisite: Graduate student status. Special studies in European history (from the fall of the Roman Empire to the present). See department office for information on particular offerings.

596 SPECIAL STUDIES IN HISTORY: OTHER 3 credits
Prerequisite: Graduate student status. Special studies in history of Latin America, Asia, Africa, or the Pacific. See department office for information on particular offerings.

598 RACE, NATION, AND CLASS IN THE MIDDLE EAST 3 credits
This course analyzes identity politics and the development of the ideas of race, nation, and class in the Middle East from a historical perspective.

599 WOMEN AND GENDER IN MIDDLE EASTERN SOCIETIES 3 credits
This course explores the multilayered processes and dimensions, including texts, cultural values and practices, institutions, and events, which have shaped and continue to shape women’s experiences in the Middle East.

601 GRADUATE RESEARCH SEMINAR 4 credits
Prerequisite: Eight 4000-level credits or permission of instructor. Research seminar designed to train students in the skills of researching and writing history, with a particular emphasis on article length.

602 MA OPTION PAPER COMPLETION 2 credits
Prerequisite: Permission of instructor. This course is for students completing the MA research paper option. Students should enroll in this course during the semester the option paper is completed.

610 GRADUATE READING SEMINAR: COMPARATIVE STUDIES IN WORLD CIVILIZATION 4 credits
Prerequisite: Graduate student status. Comparative historiography on world civilizations: East Asia, South Asia, Middle East, Africa, and the Americas. Emphasis on key themes: kingship, empire colonialism, nationalism, rule and evaluation.

612 READING SEMINAR: THE MIDDLE EAST 4 credits
Study of historical literature, sources of materials, and major interpretations of Middle Eastern history.

622 READING SEMINAR IN ANCIENT HISTORY 4 credits
Study of historical literature, sources of materials and major interpretations of ancient history, especially Greek and Roman.

625 READING SEMINAR IN MIDDLE AGE HISTORY 4 credits
Study of historical literature, sources of materials and major interpretations of medieval European history.
536 MATHEMATICAL MODELS
Prerequisite: Departmental permission. Formulation and analysis of mathematical models in social, physical sciences, and engineering, with emphasis on deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.

538 ADVANCED ENGINEERING MATHEMATICS I
Prerequisite: Departmental permission. Matrices, eigenvalue problems, systems of ODEs, vector analysis, complex variables. May not be used to meet master’s degree requirements for applied mathematics.

539 ADVANCED ENGINEERING MATHEMATICS II
Prerequisite: Departmental permission. Special functions, Fourier series and transforms, PDEs.

541 CONCEPTS IN GEOMETRY
Prerequisite: Departmental permission. Aximomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.

545 INTRODUCTION TO TOPOLOGY
Prerequisite: Departmental permission. Introduction to topological spaces and topologies, mapping, cardinality, homeomorphisms, connected spaces, metric spaces.

589 TOPICS IN MATHEMATICS
Prerequisite: 512 or departmental permission. In-depth study of special topics in mathematics and applied mathematics. May not be used to meet undergraduate or graduate credit requirements in mathematics and statistics. May be used for elective credit only.

611 TOPICS IN ALGEBRA
Prerequisite: 512 or departmental permission. Advanced study of selected topics in some of the following areas: semigroups, groups, rings, modules and fields.

612 REAL ANALYSIS
Prerequisite: 512 or departmental permission. In-depth study of real analysis – metric spaces, normed vector spaces, integration theory, Hilbert spaces.

625 ANALYTIC FUNCTION THEORY
Prerequisite: 512 or departmental permission. Complex number system, holomorphic functions, continuity, differentiability, power series complex expansion, residue theory, singularities, analytic continuation, asymptotic expansion.

627 ADVANCED NUMERICAL ANALYSIS I
Prerequisites: 512 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Error propagation; stability analysis of numerical methods in interpolation, integration, and ordinary differential equations.

628 ADVANCED NUMERICAL ANALYSIS II
Prerequisites: 512 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Theoretical analysis of numerical methods in linear algebra.

631 CALCULUS OF VARIATIONS
Prerequisite: Departmental permission. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, the maximum principle, geometric and time-optimal problems, the connective between classical theory and the maximality principle.

632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: 512 or departmental permission. Existence, uniqueness and stability of solutions to general classes of partial differential equations. Methods for solving these classes introduced, emphasizing both analytical and numerical techniques.

633,4 METHODS OF APPLIED MATHEMATICS I AND II
Prerequisite: 539 or departmental permission. Methods of applied mathematics concentrat- ing on techniques for analysis of differential and integral equations – applied complex analysis, integral transforms, partial differential equations, and integral equations.

635 OPTIMIZATION
Prerequisite: 512 or departmental permission. Unconstrained and constrained optimization theory and methods in applied problems.

636 ADVANCED COMBINATORICS AND GRAPH THEORY
Prerequisite: Departmental permission. Theory and techniques of combinatoricas as applied to network flows and graph theoretic problems.

638 THEORY AND APPLICATION OF WAVELETS
Prerequisite: permission of instructor. Theory of wavelets and applications to signal and image analysis. Topics include time-frequency representations, filter banks, discrete and continuous wavelet transforms, wavelet packets, and applications.

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.

692 SEMINAR IN MATHEMATICS
Prerequisite: permission of advisor. Seminar-type discussion on topics in mathematics leading to supervised research project.

695 PRACTICUM IN MATHEMATICS
13 credits May be repeated for a total of 13 credits. Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of mathematics. May not be used to meet degree requirements for the master’s degree.

697 INDIVIDUAL READING
12 credits May be repeated for a total of 12 credits. Prerequisite: standing and permission. Directed study in mathematics at graduate level under guidance of selected faculty member.

698 MASTER’S RESEARCH
16 credits May be repeated: Prerequisite: permission of advisor. Research in suitable topics in mathematics or applied mathematics. May not be used to meet master’s degree requirements for mathematics or applied mathematics.

699 MASTER’S THESIS
3 credits Prerequisite: permission. Properly qualified candidate for master’s degree may obtain three credits apply to major requirements.

899 DOCTORAL DISSERTATION
3 credits Prerequisite: written permission of the instructor required. Research for Doctor of Philosophy degree.
### Graduate Courses

#### COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>568</td>
<td>MOBILE ROBOTICS</td>
<td>3</td>
<td>Admission to Computer Science master's program or permission. Multiple projects involving both physical robots and software emulation.</td>
</tr>
<tr>
<td>575</td>
<td>DATABASE MANAGEMENT</td>
<td>3</td>
<td>Admission to Computer Science master's program or permission. Fundamentals of database management, data retrieval, and data integrity.</td>
</tr>
<tr>
<td>576</td>
<td>INTRODUCTION TO PARALLEL PROCESSING</td>
<td>3</td>
<td>Admission to Computer Science master's program or permission. Commercial parallel processing techniques and parallelism.</td>
</tr>
<tr>
<td>582</td>
<td>SOFTWARE ENGINEERING AND FORMAL METHODS</td>
<td>3</td>
<td>Admission to Computer Science master's program or permission. Introduction to formal software specification and validation.</td>
</tr>
<tr>
<td>584</td>
<td>TOPICS IN COMPUTER SCIENCE</td>
<td>1-3</td>
<td>May be repeated. Selected topics in computer science at an advanced level.</td>
</tr>
<tr>
<td>589</td>
<td>INDIVIDUAL STUDY IN COMPUTER SCIENCE</td>
<td>1-3</td>
<td>May be repeated. Credit or no credit. Only with departmental approval.</td>
</tr>
<tr>
<td>591</td>
<td>RESEARCH METHODOLOGY</td>
<td>3</td>
<td>Selected topics in computer science at an advanced level.</td>
</tr>
<tr>
<td>593</td>
<td>EXPRESSION OF SOFTWARE REQUIRED FOR DEGREE REQUIREMENTS.</td>
<td>1</td>
<td>Selected topics in computer science at an advanced level.</td>
</tr>
<tr>
<td>593</td>
<td>SOFTWARE SECURITY</td>
<td>3</td>
<td>Admission to Computer Science graduate program or permission.</td>
</tr>
<tr>
<td>593</td>
<td>COMPUTER NETWORKS AND DISTRIBUTED PROCESSING</td>
<td>3</td>
<td>Admission to Computer Science graduate program or permission. Transfer data over networks.</td>
</tr>
<tr>
<td>593</td>
<td>VISUALIZATION</td>
<td>3</td>
<td>Admission to Computer Science graduate program or permission.</td>
</tr>
<tr>
<td>593</td>
<td>ANIMATE SYSTEMS</td>
<td>3</td>
<td>Admission to Computer Science graduate program or permission.</td>
</tr>
<tr>
<td>593</td>
<td>SOFTWARE ENGINEERING</td>
<td>3</td>
<td>Admission to Computer Science graduate program or permission.</td>
</tr>
<tr>
<td>660</td>
<td>EXPERT SYSTEMS</td>
<td>3</td>
<td>Advanced research in expert systems, knowledge representation, and software engineering.</td>
</tr>
<tr>
<td>662</td>
<td>ADVANCED ARCHITECTURE</td>
<td>3</td>
<td>Advanced research in architecture, software engineering, and software engineering.</td>
</tr>
<tr>
<td>664</td>
<td>ADVANCED AUTOMATA AND COMPUTABILITY</td>
<td>3</td>
<td>Advanced research in automata theory, parallel processing, and software engineering.</td>
</tr>
<tr>
<td>665</td>
<td>DATA MINING</td>
<td>2</td>
<td>Advanced research in data mining and its applications in the process of Knowledge Discovery from Databases.</td>
</tr>
<tr>
<td>667</td>
<td>PARALLEL PROCESSING</td>
<td>3</td>
<td>Advanced research in parallel computing.</td>
</tr>
<tr>
<td>668</td>
<td>SOFTWARE ENGINEERING</td>
<td>3</td>
<td>Advanced research in computer science at an advanced level.</td>
</tr>
<tr>
<td>669</td>
<td>PRACTICUM COMPUTER SCIENCE</td>
<td>1-3</td>
<td>Prerequisite: graduate teaching assistant or permission.</td>
</tr>
</tbody>
</table>

697 INDIVIDUAL STUDY IN COMPUTER SCIENCE 1-2 credits
(May be repeated. Can apply to degree only with departmental approval) Prerequisite: permission of instructor. Directed studies designed as introduction to research problems under guidance of designated faculty member.

698 MASTER’S RESEARCH 1-6 credits
(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.

699 MASTER’S THESIS 1-6 credits
Prerequisite: permission. (May be repeated for a total of 15 credits.) A proper quality dissertation for a master's degree may require for enrollment, research which culminates in presentation of a faculty-supervised thesis.

STATISTICS 3470:

550 PROBABILITY 3 credits
Prerequisite: Appropriate background is one season of calculus or equivalent. Introduction to probability with basic random variables, expected value, sums of random variables, Markov processes. May not be used to meet graduate major requirements in statistics.

551,2 THEORETICAL STATISTICS I AND II 3 credits each
Prerequisite: Appropriate background is three seasons of calculus or equivalent. Elementary combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, introduction to experimental designs. May not be used to meet graduate major requirements in statistics.

560 STATISTICAL METHODS 4 credits
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 graduate major requirements in statistics.

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 distributions, estimation, hypothesis testing (parametric and nonparametric), and simple linear regression and correlation. May not be used to meet graduate major requirements in statistics.

562 APPLIED REGRESSION AND ANOVA 4 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Application of techniques of regression and analysis of variance. May not be used to meet graduate major requirements in statistics.

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.

566 RELIABILITY MODELS 3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Selected topics in relibility modeling including parametric and nonparametric models, competing models of death, censored data and accelerated life models.

571 ACTUARIAL SCIENCE I 3 credits
Prerequisite: Appropriate background is one semester of statistical science or equivalent. Study of various statistical, financial, and mathematical calculation methods used to determine insurance premiums related to contingent risks based on individual risk model frameworks.

572 ACTUARIAL SCIENCE II 3 credits
Prerequisite: Continuation of Actuarial Science I. Study of multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, conformity of definitions.

575 FOUNDATIONS OF STATISTICAL QUALITY CONTROL 3 credits
Prerequisite: Appropriate background is one semester of applied 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 are taught the organization and structures, design of statistical databases, statistical software, analysis, importing and exporting of data between software, and missing data analysis.

589 TOPICS IN STATISTICS 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.

591 WORKSHOP IN STATISTICS 1-3 credits
Prerequisite: May be used for elective credit only. (May be repeated with change of topic) Group studies of special topics in statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be taken for elective credit only.

595 STATISTICAL CONSULTING 1-3 credits
Prerequisite: 580 or permission. Students will be assigned to work with an instructor on current projects in the Center for Statistical Consulting. May be repeated for a total of 4 credits; however, only 2 credits will count toward major requirements. Does not count for elective credit for the 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: 561. Convergence of random variables, the Central Limit Theorem; theory of estimation; theory of hypothesis testing; the multivariate normal density; introduction to linear models; Bayesian statistics.

655 LINEAR MODELS 2 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 covariable variance.

660 ADVANCED STATISTICAL METHODS 4 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theory and applications of the techniques of regression and multivariable analysis of variance.

661 STATISTICS FOR THE LIFE SCIENCES 3 credits
Prerequisite: college level algebra or equivalent. Data description and presentation, probability distributions in the life sciences, sensitivity, specificity, relative risk, prevalence and application of statistical inference, ANOVA, correlation and regression. May not be used to meet graduate major requirements in statistics.

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, confounding, factorial designs, Latin squares, and analysis of covariance.

664 STATISTICS FOR THE HEALTH SCIENCES 4 credits
(May not be used to meet degree requirements for mathematical sciences majors.) Prerequisite: college level algebra or equivalent. Descriptive statistics, probability and applications, distribution, tests of hypotheses and confidence intervals, nonparametric statistics, regression and correlation. May not be used to meet graduate major requirements in statistics.

665 MULTIVARIATE ANALYSIS 3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theory and practice using techniques requiring less restrictive assumptions. Nonparametric analogues to t- and F-tests, ANOVA, regression and correlation. Computer applications.

669 ADVANCED TOPICS IN STATISTICS 1-3 credits
(May be repeated for a total of six credits) Prerequisite: 651. Selected topics in statistics including: limit theorems, sampling, point estimation, hypothesis testing, confidence estimation. May not be used to meet graduate major requirements in statistics.

675 INDIVIDUAL READINGS IN MODERN LANGUAGES 1-2 credits
Prerequisite: Graduate status or permission of instructor and department chair. (May be repeated for a total of 8 credits.) Reading and research (May be repeated) Prerequisite: permission of advisor. Directed studies in modern languages. May not be used to meet degree requirements. Credit/noncredit.

679 EXPERIMENTAL DESIGN 4 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, transformations, categorical regressions; logistic regression.

686 NONPARAMETRIC STATISTICS-METHODS 3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Statistical issues and methods for biological, medical and health sciences including: clinical trials, power, log-linear models, survival analysis, outlier analysis, and bioassy. Computer applications.

687 RESPONSE SURFACE METHODOLOGY 3 credits
Prerequisite: Appropriate background is two semesters of applied statistics or equivalent. Multivariate techniques including distance concept, Hotelling's T2, multivariate ANOVA, regression and correlation, linear contrasts, factorial experiments, nested and repeat measure designs, Donnelfen-X tests, linear discrimination analysis, canonical correlations, application.

690 BIOMETRICS 3 credits
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Statistical issues and methods for biological, medical and health sciences including: clinical trials, power, log-linear models, survival analysis, outlier analysis, and bioassy. Computer applications.

693 STATISTICS MASTERS PAPER 2 credits
(May be repeated for a total of four credits) Prerequisite: permission of advisor. Supervised writing of paper for Masters of Science in Statistics Nonthesis Option. No more than 2 credits apply to major requirements.

695 PRACTICUM IN STATISTICS AND MATHEMATICS 1-3 credits
Prerequisite: Graduate teaching assistant or permission. Training and experience in college teaching of statistics. May not be used to meet degree requirements.

697 INDIVIDUAL READING 1-2 credits
(May be repeated for a total of four credits) Prerequisites: graduate standing and permission. Directed studies in statistics under guidance of selected faculty member.

698 MASTER'S RESEARCH 1-6 credits
(May be repeated. Prerequisite: permission of advisor. Research in suitable topics in statistics culminating in a research paper. No more than 2 credits applicable to major requirements.

699 MASTER’S THESIS 2 credits
(May be repeated for a total of 4 credits) Prerequisite: Permission. Properly qualified candidates for master’s degree may obtain 2-4 credits for research experience which culminates in presentation of faculty-supervised thesis.

ENGINEERING APPLIED MATHEMATICS 3490:

790 ADVANCED SEMINAR IN APPLIED MATHEMATICS 1-4 credits
Prerequisite: Permission. (May be repeated for a total of 12 credits.) For students seeking graduate degrees in Applied Mathematics. Advanced projects and studies in various areas of applied mathematics.

898 PRELIMINARY RESEARCH 1-15 credits
Prerequisite: Permission. (May be repeated.) Completion of qualifying examination and approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation topic.

899 DOCTORAL DISSERTATION 1-15 credits
Prerequisite: Permission. (May be repeated.) Completion of Candidacy examination and approval of Student Advisory Committee. Original research by a Ph.D. candidate.

MODERN LANGUAGES 3500:

THE GENERAL DESIGNATION OF 3500 IS USED FOR LANGUAGES THAT DO NOT HAVE A SPECIFIC DEPARTMENT NUMBER

590 WORKSHOP 1-4 credits
Prerequisite: Graduate status or permission of department. (May be repeated for a total of eight credits) Group studies of special topics in modern languages.

597 INDIVIDUAL READINGS IN MODERN LANGUAGES 1-4 credits
Prerequisite: Graduate status or permission of instructor and department chair. (May be repeated with departmental permission) Individual study under the guidance of professor who directs and coordinates student’s reading and research.

ARABIC 3501:

522 SPECIAL TOPICS IN ARABIC 1-4 credits
Prerequisite: Graduate status, permission of instructor and department chair. Development of specialized language skills or reading of significant works of literature or culture not studied in other courses. Conducted in Arabic. May be repeated once with different topic for a total of eight credits.
597 INDIVIDUAL READING IN ARABIC 3 credits
Prerequisite: Graduate status, permission of instructor and department chair. Individual study under the guidance of a professor. May be repeated with departmental permission for a total of eight credits.

CHINESE 3502:

522 SPECIAL TOPICS IN LANGUAGE, SKILLS, OR CULTURE OR LITERATURE 1-4 credits
Prerequisite: Graduate status, permission of instructor and department chair. Development of specialized language skills or reading of significant works of literature or culture not studied in other courses. May be repeated once with different topic for a total of eight credits.

597 INDIVIDUAL READING IN CHINESE 1-4 credits
Prerequisite: Graduate status, permission of instructor and department chair. Individual study under the guidance of a professor who directs and coordinates student's reading and research. May be repeated with departmental permission for a total of eight credits.

LATIN 3510:

597 LATIN READING AND RESEARCH 1-4 credits each
Prerequisite: Graduate status or permission of department. General Latin epigraphy, prose composition or philology; mumismatics or certain other archaeological topics may be offered. May be repeated for credit with change of subject.

FRENCH 3520:

502 ADVANCED FRENCH GRAMMAR 3 credits
Prerequisite: Graduate status or permission of department. Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles.

513 FRENCH CINEMA 3 credits
Prerequisite: Graduate status or permission of department. Study and discussion of various aspects of French culture and civilization as characterized in movies.

522 SPECIAL TOPICS IN ADVANCED LANGUAGE SKILLS OR CULTURE OR LITERATURE 1-4 credits
Prerequisite: Graduate status or permission of department. Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.

527 20TH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: Graduate status or permission of department. Reading and discussion of the most representative works of period. Conducted in French.

530 CONTEMPORARY QUEBEC 3 credits
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.

531 FRANCOPHONE LITERATURE 3 credits
The problems of identity (race, class) in a postcolonial context, studied through literary texts by authors from Africa, Caribbean, and Quebec.

560 SELECTED THEMES IN FRENCH LITERATURE 3 credits
(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.

597 INDIVIDUAL READING IN FRENCH 1-4 credits
Prerequisite: Graduate status or permission of department. Individual reading in French, offered at the graduate level. (May be repeated for a total of eight credits.)

697 INDIVIDUAL READING AND RESEARCH IN FRENCH 1-4 credits each
Prerequisite: Graduate status or permission of department. Independent study and research in specific areas. Considerable reading and writing required.

GERMAN 3530:

597 INDIVIDUAL READING IN GERMAN 3 credits
Prerequisite: Graduate status or permission of department. Individual study under guidance of professor who directs and coordinates student's reading and research.

ITALIAN 3550:

597 INDIVIDUAL READING IN ITALIAN 1-4 credits
Prerequisite: Graduate status or permission of department. Individual study under guidance of professor at the graduate level. (May be repeated for a total of eight credits.)

SPANISH 3580:

503 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.

504 INTRODUCTION TO SPANISH LINGUISTICS 4 credits
Prerequisite: 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.

508 SPANISH LINGUISTICS: PHONOLOGY 4 credits
Prerequisite: Graduate status or permission of department. Descriptive study of Spanish phonetics and morphology; comparison of Spanish and English sounds, historical aspects, regional accents and sociolinguistic variation. Conducted in Spanish.

506 SPANISH LINGUISTICS: SYNTAX 4 credits
Prerequisite: Graduate status or permission of department. Descriptive study of Spanish syntax; introduction to theories of grammar; overview of Spanish semantics and pragmatics. Conducted in Spanish.

507 SURVEY OF HISPANIC LITERATURE: SPAIN 4 credits
Prerequisite: Graduate status or permission of department. Historical overview of representative works and literary movements in Spain. Does not count toward M.A. in Spanish. Conducted in Spanish.

508 SURVEY OF HISPANIC LITERATURE: SPANISH AMERICA 4 credits
Prerequisite: Graduate status or permission of department. Historical overview of representative works and literary movements in Spanish America. Does not count toward M.A. in Spanish. Conducted in Spanish.

509 CULTURAL MANIFESTATION IN MEDIEVAL AND RENAISSANCE SPAIN 4 credits
Prerequisite: Graduate status or permission of department. Comparative study of representative artistic and literary works of the Medieval and Renaissance periods. Conducted in Spanish.

510 SPANISH APPLIED LINGUISTICS 4 credits
Prerequisite: 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.

511 SPAIN DURING THE BAROQUE PERIOD 4 credits
Prerequisite: Graduate status or permission of department. A comparative study of the different cultural manifestations during the 17th century in Spain. Conducted in Spanish.

512 CERVANTES: DON QUIJOTE 4 credits
Prerequisite: Graduate status or permission of department. Reading and analysis of Don Quixote as the first modern novel in the historical context of Renaissance and Baroque esthetics. Conducted in Spanish.

513 THE DON JUAN MYTH IN SPANISH CULTURE 4 credits
Prerequisite: Graduate status or permission of department. Study of the evolution of the Don Juan myth from its origins to its latest versions in the 20th century.

514 CULTURAL POLITICS IN THE RIVER PLATE 4 credits
Prerequisite: Graduate status or permission of department. This course will examine the military dictatures of the seventies and eighties in Argentina and Uruguay by looking at how these regimes affect culture.

516 REPRESENTING REALITY IN 19TH CENTURY SPAIN 4 credits
Prerequisite: 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.

518 20TH CENTURY SPAIN: THE AVANT-GARDE IN LITERATURE AND ART 4 credits
Prerequisite: Graduate status or permission of department. A comparative study of the major literary and artistic movements in Spain which illustrate the primary cultural changes of the century. Conducted in Spanish.

519 THE SPANISH CIVIL WAR AND ITS CULTURAL IMPACT 4 credits
Prerequisite: Graduate status or permission of department. Study of the impact of the Civil War on Spanish culture.

522 SPECIAL TOPICS IN SPECIALIZED LANGUAGE SKILLS OR CULTURE OR LITERATURE 1-4 credits
Prerequisite: Graduate status or permission of department. (May be repeated.) Development of specialized language skills or reading of significant works of literature or culture not studied in other courses.

525 20TH CENTURY SPANISH-AMERICAN NOVEL 4 credits
Prerequisite: Graduate status or permission of department. Reading and discussion of representative contemporary Latin American novels. Conducted in Spanish.

527 LATINO CULTURES IN THE USA 4 credits
Prerequisite: Graduate status or permission of department. Inquiry into the Latinx experience of displacement and marginality through the analysis of cultural manifestations in the USA. Conducted in Spanish.

530 WOMEN IN 20TH CENTURY HISPANIC LITERATURE 4 credits
Prerequisite: 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.

531 HISPANIC CULTURE: SPAIN 4 credits
Prerequisite: Graduate status or permission of department. Study of the impact of the Civil War on Spanish culture.

532 HISPANIC CULTURE: SPANISH AMERICA 4 credits
Prerequisite: Graduate status or permission of department. Overview and historical survey of Spanish American civilization and culture. Does not count toward the M.A. in Spanish. Conducted in Spanish.

661 SPANISH TEACHING PRACTICUM 2 credits
Prerequisite: 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.

697 INDIVIDUAL READINGS IN SPANISH 1-4 credits each
Content of given individual reading program taken from course contexts approved for graduate work in Spanish.

PHILOSOPHY 3600:

511 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.

514 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.

515 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.

518 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.

521 PHILOSOPHY OF LAW 3 credits
Prerequisite: Permission of instructor. Identification and critical evaluation of classic and contemporary theories and assumptions of law, including legal reasoning, justice, natural law, punishment, etc.

524 EXISTENTIALISM 3 credits
Prerequisite: 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.

526 PHENOMENOLOGY 3 credits
Prerequisite: Permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought.

532 ARISTOTLE 3 credits
Prerequisite: Permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of mankind and ethics.

534 KANT 3 credits
Prerequisite: Permission of instructor. Study of Kantian system of thought and its relation to history of philosophy. Includes thorough investigation of one or more of Kant's philosophical works.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>EVERYDAY PHYSICS</td>
<td>4</td>
<td>Admission to the physics master's program or permission. College-level physics</td>
</tr>
<tr>
<td>506</td>
<td>PHYSICAL OPTICS</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Propagation, reflex-</td>
</tr>
<tr>
<td>513</td>
<td>MECHANICS I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Mechanics at inter-</td>
</tr>
<tr>
<td>523</td>
<td>MECHANICS II</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Advanced mechanics</td>
</tr>
<tr>
<td>536</td>
<td>ELECTROMAGNETISM I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Electricity and mag-</td>
</tr>
<tr>
<td>541</td>
<td>QUANTUM PHYSICS I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Introduction to quan-</td>
</tr>
<tr>
<td>542</td>
<td>QUANTUM PHYSICS II</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Applications of quan-</td>
</tr>
<tr>
<td>551</td>
<td>ADVANCED LABORATORY I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Experimental tech-</td>
</tr>
<tr>
<td>552</td>
<td>ADVANCED LABORATORY II</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Experimental proj-</td>
</tr>
<tr>
<td>560</td>
<td>TECHNIQUES OF PHYSICS INSTRUCTION</td>
<td>1</td>
<td>Prearranged admission to the physics master's program or permission. Teaching</td>
</tr>
<tr>
<td>561</td>
<td>NEUROETHICS</td>
<td>3</td>
<td>Permission of instructor. Discussion and evaluation of contemporary theories of</td>
</tr>
<tr>
<td>562</td>
<td>THEORY OF KNOWLEDGE</td>
<td>3</td>
<td>Permission of instructor. Examination of nature of knowledge; theories of per-</td>
</tr>
<tr>
<td>564</td>
<td>PHILOSOPHY OF SCIENCE</td>
<td>3</td>
<td>Permission of instructor. Nature of scientific inquiry, types of explanations,</td>
</tr>
<tr>
<td>571</td>
<td>METAPHYSICS</td>
<td>3</td>
<td>Permission of instructor. Theories about ultimate nature and ultimate explana-</td>
</tr>
<tr>
<td>580</td>
<td>SEMINAR</td>
<td>(May be repeated)</td>
<td>Permission of instructor. Varying philosophy topics not covered in regular course offerings.</td>
</tr>
<tr>
<td>581</td>
<td>PHILOSOPHY OF LANGUAGE</td>
<td>3</td>
<td>Permission of instructor. Contemporary philosophies about nature of language</td>
</tr>
<tr>
<td>665</td>
<td>ETHICS OF SCIENCE</td>
<td>3</td>
<td>Examination of the foundational issues surrounding ethics and science as well as considerations of applied ethical issues of scientists, science, new technologies, and society.</td>
</tr>
<tr>
<td>605</td>
<td>COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Review of FORTRAN and basic topics in computer science. Numerical solutions to physics problems, including Newton’s and Schrodinger’s equations. Treatment and reduction of experimental data, plotting, simulation.</td>
</tr>
<tr>
<td>606</td>
<td>COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Data reduction, Cal-</td>
</tr>
<tr>
<td>610</td>
<td>SURFACE PHYSICS</td>
<td>3</td>
<td>Admission to the physics master's program or permission. An interdisciplinary course stressing the fundamentals and applications of physics at surfaces, including conso-</td>
</tr>
<tr>
<td>615</td>
<td>ELECTROMAGNETIC THEORY I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Electromagnetics and magnetostatics at advanced level for graduate students, boundary value problems, transients, multipole expansions, time-varying fields, Maxwell’s equations and electromagnetic waves, reflection, refraction, wave guided and cavities.</td>
</tr>
<tr>
<td>616</td>
<td>ELECTROMAGNETIC THEORY II</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Scattering and dif-</td>
</tr>
<tr>
<td>625</td>
<td>QUANTUM MECHANICS I</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>626</td>
<td>QUANTUM MECHANICS II</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Foundation of rela-</td>
</tr>
<tr>
<td>641</td>
<td>LAGRANGIAN MECHANICS</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Principle of least action and Lagrangian equation of motion, conservation laws, integration of motion, collisions, small oscillations, Hamilton’s equations, canonical transformations.</td>
</tr>
<tr>
<td>661</td>
<td>STATISTICAL MECHANICS</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Fundamentals of princi-</td>
</tr>
<tr>
<td>669</td>
<td>CRITICAL PHENOMENA AND PHASE TRANSITIONS</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Modern theory of critical phenomena, Landau theory, Spin systems, binary mixtures, polymers and liquid crys-</td>
</tr>
<tr>
<td>685</td>
<td>SOLID-STATE PHYSICS I</td>
<td>3</td>
<td>Admission to the physics master's program or permission. Theory of crystals, Property of reciprocal lattice and Bloch’s theorem. Lattice dynamics and specific heat. Electron states; cellular method, tight-binding method, Green’s function method.</td>
</tr>
<tr>
<td>686</td>
<td>SOLID-STATE PHYSICS II</td>
<td>3</td>
<td>Admission to the physics master’s program or permission. Orthogonalized plane and pseudo potentials. Electron-electron interaction, screening by impurities, Fermi surface and plasma oscillations. Dynamics of electrons, transport properties and Fermi surface.</td>
</tr>
<tr>
<td>689</td>
<td>SPECIAL PROBLEMS IN THEORETICAL PHYSICS</td>
<td>3</td>
<td>Admission to the physics master’s program or permission. Intended to facilitate expansion of particular areas of interest in theoretical physics, by concourse of faculty members; any interested student may follow a concourse and utilize the educational resources in special areas.</td>
</tr>
<tr>
<td>691</td>
<td>SEMINAR IN THEORETICAL PHYSICS</td>
<td>1-3</td>
<td>Admission to the physics master’s program or permission.</td>
</tr>
<tr>
<td>696</td>
<td>SPECIAL TOPICS: PHYSICS</td>
<td>1-4</td>
<td>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 and understanding in these areas.</td>
</tr>
<tr>
<td>699</td>
<td>MASTER’S THESIS</td>
<td>1</td>
<td>Admission to the physics master’s program or permission. With approval of the department, one credit may be earned by candidate for M.S. degree upon satisfactory completion of a master’s thesis.</td>
</tr>
<tr>
<td>879</td>
<td>DOCTORAL RESEARCH</td>
<td>1-5</td>
<td>Doctoral candidate. Admission to the physics master’s program or permission. Doctoral candidate in any discipline who has completed a minimum of two years of full-time study at this University.</td>
</tr>
</tbody>
</table>

**POLITICAL SCIENCE 3700:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>POLITICS AND THE MEDIA</td>
<td>3</td>
<td>Examination of relationships between the press, the news media and political decision mak-</td>
</tr>
<tr>
<td>503</td>
<td>MEDIA, CRIME, AND PUBLIC OPINION</td>
<td>3</td>
<td>Examines the social construction of crime in mass media and how it impacts public opinion, including fear of crime, beliefs about crime causation, and crime policy.</td>
</tr>
<tr>
<td>510</td>
<td>INTERNATIONAL SECURITY POLICY</td>
<td>3</td>
<td>Introduction to political uses of military forces. Major focus on methodological, conceptual, and ethical dilemmas confronted in developing and implementing defense policy.</td>
</tr>
<tr>
<td>513</td>
<td>GLOBAL PUBLIC HEALTH TRENDS</td>
<td>2</td>
<td>An introduction to comparative global biological and public health security policy. Topics include: infectious disease outbreaks, bioterrorism, and potential &quot;nano-terrorism.&quot;</td>
</tr>
<tr>
<td>522</td>
<td>UNDERSTANDING RACIAL AND GENDER CONFLICT</td>
<td>3</td>
<td>This is the core course for the Certificates in Racial and Gender Conflict, providing students with an opportunity to intensively examine racial and gender conflict.</td>
</tr>
</tbody>
</table>

**PHYSICS 3650:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>365</td>
<td>POLITICAL SCIENCE 3700:</td>
<td>1</td>
<td>Examination of relationships between the press, the news media and political decision mak-</td>
</tr>
<tr>
<td>370</td>
<td>SEMINAR IN THEORETICAL PHYSICS</td>
<td>1-3</td>
<td>Admission to the physics master’s program or permission.</td>
</tr>
<tr>
<td>371</td>
<td>CRITICAL PHENOMENA AND PHASE TRANSITIONS</td>
<td>3</td>
<td>Admission to the physics master’s program or permission. Modern theory of critical phenomena, Landau theory, Spin systems, binary mixtures, polymers and liquid crys-</td>
</tr>
<tr>
<td>372</td>
<td>SPECIAL PROBLEMS IN THEORETICAL PHYSICS</td>
<td>3</td>
<td>Admission to the physics master’s program or permission. Intended to facilitate expansion of particular areas of interest in theoretical physics, by concourse of faculty members; any interested student may follow a concourse and utilize the educational resources in special areas.</td>
</tr>
<tr>
<td>376</td>
<td>SEMINAR IN THEORETICAL PHYSICS</td>
<td>1-3</td>
<td>Admission to the physics master’s program or permission.</td>
</tr>
<tr>
<td>377</td>
<td>SPECIAL TOPICS: PHYSICS</td>
<td>1-4</td>
<td>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 and understanding in these areas.</td>
</tr>
<tr>
<td>379</td>
<td>MASTER’S THESIS</td>
<td>1</td>
<td>Admission to the physics master’s program or permission. With approval of the department, one credit may be earned by candidate for M.S. degree upon satisfactory completion of a master’s thesis.</td>
</tr>
<tr>
<td>389</td>
<td>DOCTORAL RESEARCH</td>
<td>1-5</td>
<td>Doctoral candidate. Admission to the physics master’s program or permission. Doctoral candidate in any discipline who has completed a minimum of two years of full-time study at this University.</td>
</tr>
</tbody>
</table>

**PHYSICS 3650:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>365</td>
<td>POLITICAL SCIENCE 3700:</td>
<td>1</td>
<td>Examination of relationships between the press, the news media and political decision mak-</td>
</tr>
<tr>
<td>370</td>
<td>SEMINAR IN THEORETICAL PHYSICS</td>
<td>1-3</td>
<td>Admission to the physics master’s program or permission.</td>
</tr>
<tr>
<td>371</td>
<td>CRITICAL PHENOMENA AND PHASE TRANSITIONS</td>
<td>3</td>
<td>Admission to the physics master’s program or permission. Modern theory of critical phenomena, Landau theory, Spin systems, binary mixtures, polymers and liquid crys-</td>
</tr>
<tr>
<td>372</td>
<td>SPECIAL PROBLEMS IN THEORETICAL PHYSICS</td>
<td>3</td>
<td>Admission to the physics master’s program or permission. Intended to facilitate expansion of particular areas of interest in theoretical physics, by concourse of faculty members; any interested student may follow a concourse and utilize the educational resources in special areas.</td>
</tr>
<tr>
<td>376</td>
<td>SEMINAR IN THEORETICAL PHYSICS</td>
<td>1-3</td>
<td>Admission to the physics master’s program or permission.</td>
</tr>
<tr>
<td>377</td>
<td>SPECIAL TOPICS: PHYSICS</td>
<td>1-4</td>
<td>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 and understanding in these areas.</td>
</tr>
<tr>
<td>379</td>
<td>MASTER’S THESIS</td>
<td>1</td>
<td>Admission to the physics master’s program or permission. With approval of the department, one credit may be earned by candidate for M.S. degree upon satisfactory completion of a master’s thesis.</td>
</tr>
<tr>
<td>389</td>
<td>DOCTORAL RESEARCH</td>
<td>1-5</td>
<td>Doctoral candidate. Admission to the physics master’s program or permission. Doctoral candidate in any discipline who has completed a minimum of two years of full-time study at this University.</td>
</tr>
</tbody>
</table>
537 GOVERNMENT VERSUS ORGANIZED CRIME 3 credits
The course gives a history of organized crime and the government's responses to it. Newly emerging international crimes are also discussed.

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 models available for analyzing public policies. Techniques of cost-benefit analysis, evaluation research, quasi-experimentation are also considered as well as various policy 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.

545 AL QAEDA 3 credits
This course explores the causes and consequences of Al Qaeda’s terrorism. Students will weigh 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 internal power relations, electoral politics and correctional politics, and political imprisonment.

561 THE SUPREME COURT AND CONSTITUTIONAL LAW 3 credits
Interpretation of the Constitution by the Supreme Court with emphasis on federal judicial, legislative and executive power, separation of powers, and federalism.

562 THE SUPREME COURT AND CIVIL LIBERTIES 3 credits
Interpretation of the Constitution by the Supreme Court with emphasis on freedom of speech and press, freedom of religion, criminal rights and right to privacy.

563 HUMAN RIGHTS IN WORLD POLITICS 3 credits
An introduction to human rights in a comparative perspective; topics include definition and development of human rights with attention paid to government intervention and warfare.

570 CAMPAIGN MANAGEMENT I 3 credits
Case study and research in campaign management.

571 CAMPAIGN MANAGEMENT II 3 credits
The second course in campaign management. Focus is on timing, coalition building, candidate positioning, event planning, internal organization, and other elements of campaign strategy.

571 CAMPAIGN FINANCE 3 credits
Reading and research in financial decision making in political campaigns.

573 VOTER CONTACT AND ELECTIONS 3 credits
Theoretical and practical approaches to gaining votes in all types of political campaigns.

574 POLITICAL OPINION, BEHAVIOR AND ELECTORAL POLITICAL 3 credits
An integrated analysis of psychological, cultural and group processes of opinion formation and change. Attention given to whether opinion change on electoral outcomes.

575 AMERICAN INTEREST GROUPS 3 credits
Research on the development, structure and function of interest groups in the United States.

576 AMERICAN POLITICAL PARTIES 3 credits
Prerequisite: six credits of political science or permission. Reading and research on the development, structure and function of parties in the United States.

577 LOBBYING 3 credits
Examines the lobbying profession in the political process. Topics include theories of lobbying, tools of lobbying, the lobbying process, and types of lobbying.

580 POLICY PROBLEMS 3 credits
May be repeated for a total of six credits/Intensive study of selected problems in public policy.

581 THE POLITICS OF POLICING 3 credits
Analysis of various political dimensions underlying the study of politics and policing in the context of police reform, crime and criminal justice community.

582 CURRENT ISSUES (CI TOPIC) 3 credits
Study and critical analysis of current issues, programs, and policies relating to political science and political justice at the federal or state level.

583 CONSTITUTIONAL PROBLEMS IN CRIMINAL JUSTICE 3 credits
Analyzes Supreme Court policy-making regarding problems of criminal justice, including search and seizure, self-incrimination, right to counsel, jury selection, and post-appeal prisoner rights.

590 WORKSHOP IN POLITICAL SCIENCE 3 credits
May be repeated for a total of nine credits. Timely workshops on varying subjects to meet the changing needs of our students in response to new and emerging political issues and controversies.

600 SCOPE AND THEORIES OF POLITICAL SCIENCE 3 credits
Prerequisite: Admission to a Political Science graduate program or permission. Emphasis on the nature, scope and content of political theory; theory construction and validation in political science.

601 RESEARCH METHODS IN POLITICAL SCIENCE 3 credits
Prerequisites: 600 or permission. Techniques of quantitative research methodology in political science; utility and limitations of quantitative analysis.

602 FOUNDATIONS OF POLITICAL SCIENCE 3 credits
Prerequisite: Admission to a Political Science graduate program or permission. Introduction to the major works in political science. Works to be discussed range from ancient Greek to 20th century European and American political thought.

603 SCHOLARY WRITING AND PROFESSIONAL DEVELOPMENT IN POLITICAL SCIENCE 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Analysis of current problems in theory and practice of politics and organization.

605 SEMINAR IN COMPARATIVE POLITICS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Research selected topics in comparative politics. Comparative method.

622 SEMINAR IN ALTERNATIVES TO VIOLENCE AT HOME AND ABROAD 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. An interdisciplinary analysis of the nature of violence—from interpersonal to international—to enhance our capacity to reduce violence and other threats to liberty.

630 SEMINAR IN NATIONAL POLITICS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Reading and research on formulation, development and implementation of national policy in one or more areas of contemporary significance.

650 SEMINAR ON LAW, PUNISHMENT, AND POLITICS: U.S. AND THE WORLD 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Reading and research on the multiple and contingent interconnections between law, punishment, politics and publicity.

655 CAMPAIGN AND ELECTION LAW 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Examines the legal environment for political campaigns. Topics include historical background, legal foundation, voting rights, filing requirements, campaign finance, and political advertising.

668 SEMINAR IN PUBLIC POLICY AGENDAS AND DECISIONS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Reading and research on the development of public policy issues and modes of decision making used by policy makers.

672 SEMINAR: POLITICAL INFLUENCE AND ORGANIZATIONS 3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Examines the lobbying profession of low-level workers and large firms are diffused. A theoretical and applied look at parties, interest groups, public opinion, media, and protest.

690 SPECIAL TOPICS IN POLITICAL SCIENCE 1-3 credits
Prerequisites: Admission to a Political Science graduate program or permission. Graduate-level examination of selected topics in American politics, comparative politics, international politics, international political organizations and public policy.

693 INTERNSHIP IN GOVERNMENT AND POLITICS 3 credits
May be repeated for a total of six credits.) Prerequisite: Admission to a Political Science graduate program or permission. Internship in government and politics.

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.

699 MASTERS THESIS 2-6 credits
Prerequisite: Admission to a Political Science graduate program or permission.

PSYCHOLOGY

3750:

500 PERSONALITY 4 credits
Prerequisite: admission to the Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.

510 PSYCHOLOGICAL TESTS AND MEASUREMENTS 4 credits
Prerequisite: admission to the Graduate School. Consideration of the nature, construction and use of tests and measurements in industry, government and education. Includes aptitude and achievement tests, rating scales, attitude and opinion analysis.

520 ABNORMAL PSYCHOLOGY 4 credits
Prerequisite: admission to the Graduate School. Study of the survey research methods as applied to the analysis of public opinion, political behavior and performance in small groups including effects of personality, social structure, task, situation and social-cognitive variables.

530 PSYCHOLOGICAL DISORDERS OF CHILDREN 4 credits
Prerequisite: admission to the Graduate School. Survey of syndromes, etiology, diagnoses and treatment of major psychological conditions ranging from transient maladjustments to psychosis.

532 PSYCHOLOGICAL DISORDERS OF CHILDREN 4 credits
Prerequisite: admission to the Graduate School. Study of syndromes, etiology, diagnoses and treatment of behavioral disorders in children from the standpoint of developmental psychology. Behavioral data and treatment approaches emphasized.

543 HUMAN RESOURCE MANAGEMENT 4 credits
Prerequisite: admission to the Graduate School. The application of psychological theories 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.

554 PSYCHOLOGY OF SMALL GROUP BEHAVIOR 4 credits
Prerequisite: admission to the Graduate School. Examination of factors affecting behavior in small groups including effects of personality, social structure, 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 tests.

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.

561,562 PSYCHOLOGICAL RESEARCH USING COMPUTING AND STATISTICAL METHODS I and II 4 credits each
Sequential prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special problems graduate students with permission. Psychological research problems applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychological measurement, error, robustness and power.

610 CORE I: SOCIAL PSYCHOLOGY 2 credits
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special problems graduate students with permission. Psychological research problems applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychological measurement, error, robustness and power.

610 CORE II: COGNITIVE PSYCHOLOGY 2 credits
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special problems graduate students with permission. Psychological research problems applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychological measurement, error, robustness and power.

610 CORE III: INDIVIDUAL DIFFERENCES 2 credits
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special problems graduate students with permission. Psychological research problems applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychological measurement, error, robustness and power.
640 CORE IV: BIOPSYCHOLOGY 2 credits
Prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of nervous system: structure, function, development, including neuroanatomy, neuron physiology, and synaptic transmission. Also overviews biological bases of learning, memory, consciousness, intelligence, psychopharmacology, behavior, and genetics.

650 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/research that examines the interaction of social factors and environment with cognition, emotion, and behavior. Focuses on the issue of how people understand their social experiences. Topics include: person perception, attribution, social cognition, social influence, and social comparison.

660 SCIENCE AND ETHICS OF INDUSTRIAL PSYCHOLOGY 4 credits
Survey of Industrial Psychology including coverage of selection and performance management. Also, discusses professional and scientific guidelines regarding the ethics of Industrial Psychology.

672 COUNSELING PRACTICUM 2 credits
Prerequisites: graduate standing in psychology and permission of instructor. Introduction to and development of therapeutic techniques via instructor supervision, case studies, exercises, and case conference evaluations of actual clinical work samples. (May be repeated for a total of 8 credits.) Credit/no credit.

673 COUNSELING PRACTICUM LAB 2 credits
Prerequisites: graduate standing in psychology and instructor’s permission. Corequisites: 672. Application of therapeutic skills and intervention techniques to work with clients in the Psychology Department Counseling Clinic, including small group supervision of clinical work. (May be repeated for a total of 8 credits.) Credit/no credit.

674 PERSONNEL PRACTICUM 14 credits
Prerequisites: 660. standing graduate in psychology, 14 credits of graduate psychology, and permission of the instructor. Supervised field experience in industrial/organizational psychology in settings such as government or social organization. The experience requires the application of industrial/organizational psychological theories and techniques. Credit/no credit.

675 APPLICATION OF AGING PRACTICUM 14 credits
(May be repeated.) Prerequisites: 722. standing graduate in psychology, 14 credits of graduate psychology and permission of the instructor. Supervised field experience in applied cognitive aging. Opportunities to provide the student with the opportunity to apply skills and knowledge acquired in the academic setting and to obtain knowledge about community programs and agencies which focus on developmental processes. Credit/no credit.

680 EXTERNAL SPECIAL TOPICS 2 credits
(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 to apply toward a UA degree either as a required or an elective course.

699 MASTER’S THESIS 14 credits
(May be repeated.) Prerequisite: permission of the instructor. Research analysis of data and preparation of thesis for master’s degree.

700 SURVEY OF PROJECTIVE TECHNIQUES 4 credits
Prerequisite: 630 or instructor’s permission. Introduction to rationale, assumptions and ethics, and research of projective testing. Elementary administration, scoring and interpretation. Rorschach, and survey of other important contemporary projective instruments.

701 PSYCHODIAGNOSTICS 4 credits
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.

707 SUPERVISION IN COUNSELING PSYCHOLOGY 4 credits
Prerequisite: doctoral standing or permission of instructor. Instruction and experience in supervising a graduate student in counseling.

709 INTRODUCTION TO COUNSELING PSYCHOLOGY 2 credits
Prerequisites: 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 research literature in the field.

709C THEORIES OF COUNSELING AND PSYCHOTHERAPY 4 credits
Prerequisite: 600 or permission of the instructor. Major systems of individual psychotherapy explored in a philosophical framework. Freudian, behavioral, Rogersian, cognitive, and other theories. Includes research, contemporary problems and ethics.

710 VOCATIONAL BEHAVIOR 4 credits
Prerequisite: 630 or permission of instructor. Instruction and research on vocational behavior and counseling. Includes major theories of vocational behavior, and technical vocational 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, theory and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.

713 PROFESSIONAL, ETHICAL AND LEGAL ISSUES IV COUNSELING PSYCHOLOGY 4 credits
Prerequisite: doctoral standing or permission of the instructor. 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: successful completion of 520 or 420/352, and 420/505 and 5600.645. Study of the development, administration, and interpretation of objective personality tests. Focus on personality assessment in the fields of counseling psychology, counseling, vocational guidance and related areas.

715 RESEARCH DESIGN IN COUNSELING I 3 credits
Prerequisite: doctoral standing or permission of the instructor. Study of research designs, evaluation of available research and review of current research.

717 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY 4 credits
Prerequisites: 630; one semester of practicum work. Critical examination and application of research and theory in counseling diverse populations, focusing on race/ethnicity, sex/gender, sexual orientation, age, disability, and spiritual and cultural differences.

718 HISTORY AND SYSTEMS IN PSYCHOLOGY 2 credits
Prerequisite: 630. Philosophical and scientific antecedents of psychology and details of the development of systematic views of the mind in the 19th and 20th centuries.

727 PSYCHOLOGY OF ADULTHOOD AND AGING 4 credits
Prerequisite: graduate standing in psychology or in the collaborative program in counseling psychology or permission of instructor. Aspects of development, aging with emphasis on life-span methodology and research design. Age-related changes in intelligence, personality, sensation, perception, learning, memory, and socialization and intervention approaches.

731 PERCEPTION, ATTENTION, AND AGING 4 credits
Prerequisites: graduate standing in adult development and aging program or permission of instructor. Survey of theory, methods, and data on attention and perception and how aging affects these phenomena.

732 COGNITION AND AGING 4 credits
Prerequisites: graduate standing in psychology or permission of instructor. Survey of selected aspects in cognitive aging including problem solving, decision-making, and expertise.

735 APPLIED COGNITIVE AGING PSYCHOLOGY: COGNITIVE NEUROPSYCHOLOGY 4 credits
Prerequisite: 560 or instructor’s permission. An advanced course that acquaints graduate students with the most recent literature in cognitive neuropsychology within the context of aging issues.

719 PSYCHOPHARMACOLOGY AND ADULTHOOD 4 credits
Prerequisite: 640. Pharmacology addresses a diverse range of drugs that act in the brain. Drug mechanisms are discussed in the context of emotional, cognitive, and behavioral effects.

738 DEVELOPMENTAL PSYCHOLOGY 2 credits
Prerequisites: 722. graduate standing in psychology, or permission of instructor. Examination of methodologies, evaluation, child abuse, early intervention, day care, kibbutzim, social networks, subcultural variations, and hospital settings.

740 INDUSTRIAL GERONTOLOGY 4 credits
Prerequisites: 660, graduate standing in psychology, or permission of instructor. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, training, motivating and appraising older employees; health and safety; job design, vocational guidance, and retirement.

750 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS 2 credits
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.

751 ORGANIZATIONAL PSYCHOLOGY 4 credits
Prerequisite: 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, the internal processes of organizations, and the relationships between organizations and their environment.

752 PERSONNEL SELECTION AND ADVANCED APPLIED TESTING ISSUES 4 credits
Review of strategies employed by industrial/organizational psychologists for personnel selection, placement and promotion. Includes discussion of advanced testing issues.

753 TRAINING 2 credits
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.

754 RESEARCH METHODS IN PSYCHOLOGY 24 credits
Prerequisite: 620, graduate standing in psychology or permission of instructor. Survey of the scientific method and its specific application to psychology. Topics include data collection, validity, reliability, and use of general linear models and other statistical techniques.

755 COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH 4 credits
Prerequisite: graduate standing in psychology or permission of instructor. Practicum in application of computers to psychological research including data collection, analysis and interpretation. Also covers computer simulation of decision making including use of different models.

756 ROLE OF ATITUDES AND VALUES IN INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY 4 credits
Prerequisite: 620, graduate standing in psychology, or permission of the instructor. Considers 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.

757 ORGANIZATIONAL MOTIVATION AND LEADERSHIP 4 credits
Prerequisite: 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 other issues is also analyzed.

759 JOB EVALUATION AND EQUAL PAY 4 credits
Prerequisite: 660. Major job evaluation systems will be reviewed and critiqued. Issues such as minimum qualifications for a job, market pricing, etc. 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 will be reviewed.

760 ORGANIZATIONAL CHANGE AND TRANSFORMATION 4 credits
Prerequisites: 660 or permission of instructor. Survey of theories and introduction to practical methods of organizational change and transformation used to increase organizational effectiveness and improve employee quality of work life.

761 INFORMATION PROCESSING AND INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY 4 credits
Prerequisite: 660. Coverage of current theories in cognitive psychology is applied to traditional concerns of industrial/organizational psychology such as performance appraisal or motivation.

762 PERSONNEL PSYCHOLOGY AND THE LAW 4 credits
Prerequisite: 660. Issues in personnel psychology which have legal implications are reviewed. The impact of recent court decisions is evaluated in stipend and compensation.

763 PERFORMANCE FEEDBACK AND EVALUATION 4 credits
Prerequisite: 660, graduate standing in psychology, or permission of instructor. Examines current trends in performance appraisal and feedback techniques. Topics will include: criterion development, rater training, appraisal effectiveness, feedback processes, and performance measurement.

764 SEMINAR IN INDUSTRIAL-Psychology 4 credits
(May be repeated.) Prerequisites: graduate standing in psychology and permission of the instructor. Special topics in psychology.

765 ADVANCED COUNSELING PRACTICUM 4 credits
(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. Course will focus on supervised development of specialized theoretical applications. Credit/no credit.
This course is required for masters students on assistantships. The course reviews programmatic and management requirements. May be used for elective credit only.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>695</td>
<td>INTERNSHIP</td>
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<tr>
<td>697</td>
<td>INDIVIDUAL STUDIES</td>
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<tr>
<td>699</td>
<td>MASTER’S THESIS</td>
<td>1</td>
</tr>
<tr>
<td>700</td>
<td>ADVANCED RESEARCH METHODS I</td>
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</tr>
<tr>
<td>701</td>
<td>URBAN THEORY I</td>
<td>3</td>
</tr>
<tr>
<td>702</td>
<td>URBAN THEORY II</td>
<td>3</td>
</tr>
<tr>
<td>704</td>
<td>PUBLIC BUREAUCRACY</td>
<td>3</td>
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<tr>
<td>705</td>
<td>ECONOMICS OF URBAN POLICY</td>
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<td>706</td>
<td>PROGRAM EVALUATION</td>
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<tr>
<td>707</td>
<td>URBAN PLANNING AND MANAGEMENT STRATEGIES</td>
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<tr>
<td>708</td>
<td>URBAN POLICY: THE HISTORICAL PERSPECTIVE</td>
<td>3</td>
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<tr>
<td>709</td>
<td>SYSTEMS AND PROCESSES OF ANALYSIS</td>
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<tr>
<td>710</td>
<td>QUALITATIVE RESEARCH METHODS</td>
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<td>711</td>
<td>SEMINAR IN PUBLIC ADMINISTRATION</td>
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<tr>
<td>714</td>
<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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<tr>
<td>720</td>
<td>COMPARATIVE PLANNING STRATEGIES</td>
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<td>722</td>
<td>ETHICS IN GOVERNMENT</td>
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<tr>
<td>723</td>
<td>THEORIES OF PUBLIC SECTOR HUMAN RESOURCE MANAGEMENT</td>
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<td>734</td>
<td>CONCEPTUAL AND LEGAL FOUNDATIONS OF PUBLIC ADMINISTRATION</td>
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<tr>
<td>735</td>
<td>COMPARATIVE ADMINISTRATION</td>
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<td>736</td>
<td>LEADING PUBLIC ORGANIZATIONS</td>
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<td>740</td>
<td>SURVEY/RESEARCH METHODS IN THE PUBLIC SECTOR</td>
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<td>741</td>
<td>ECONOMIC ANALYSIS IN PUBLIC ADMINISTRATION</td>
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<td>760</td>
<td>SEMINAR IN HEALTH POLICY</td>
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<td>788</td>
<td>URBAN POLICY STUDIES</td>
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<tr>
<td>795</td>
<td>PRO-SEMINAR</td>
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<td>799</td>
<td>DIRECTED RESEARCH</td>
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<tr>
<td>899</td>
<td>DOCTORAL DISSERTATION</td>
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<tr>
<td>600</td>
<td>CURRICULAR PRACTICAL TRAINING</td>
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<tr>
<td>679</td>
<td>ENGINEERING MANAGEMENT REPORT</td>
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<tr>
<td>780</td>
<td>Ph.D. COLOQUIMUM</td>
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**Engineering Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>521</td>
<td>FUNDAMENTALS OF MULTIPHASE TRANSPORT PHENOMENA</td>
<td>3</td>
</tr>
<tr>
<td>525</td>
<td>PHYSICAL PROPERTIES OF STRUCTURAL BIOPOLYMERS</td>
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<td>535</td>
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<td>541</td>
<td>PROCESS DESIGN I</td>
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<td>572</td>
<td>SEPARATION PROCESSES IN BIOCHEMICAL ENGINEERING</td>
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<td>600</td>
<td>CURRICULAR PRACTICAL TRAINING</td>
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<td>605</td>
<td>CHEMICAL REACTION ENGINEERING</td>
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<td>SURFACE SCIENCE IN CHEMICAL ENGINEERING</td>
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**Chemical Engineering (520):**

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**Graduate Courses**

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<td>700</td>
<td>ADVANCED RESEARCH METHODS I</td>
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<td>701</td>
<td>URBAN THEORY I</td>
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<td>URBAN THEORY II</td>
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<td>705</td>
<td>ECONOMICS OF URBAN POLICY</td>
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<td>706</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>714</td>
<td>SEMINAR IN POLICY ANALYSIS AND EVALUATION</td>
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<td>715</td>
<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>
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<td>722</td>
<td>ETHICS IN GOVERNMENT</td>
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<td>723</td>
<td>THEORIES OF PUBLIC SECTOR HUMAN RESOURCE MANAGEMENT</td>
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<td>CONCEPTUAL AND LEGAL FOUNDATIONS OF PUBLIC ADMINISTRATION</td>
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**Engineering Courses**

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<tr>
<td>521</td>
<td>FUNDAMENTALS OF MULTIPHASE TRANSPORT PHENOMENA</td>
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<td>525</td>
<td>PHYSICAL PROPERTIES OF STRUCTURAL BIOPOLYMERS</td>
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<td>535</td>
<td>PROCESS ANALYSIS AND CONTROL</td>
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<td>630</td>
<td>CHEMICAL PROCESS DYNAMICS</td>
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</table>
CHEMICAL ENGINEERING ANALYSIS
Mathematical analysis of problems in transport processes, chemical kinetics and control systems. Advanced control techniques and their practical significance are stressed. Heuristic proofs will be given for necessary theory developments.

NONLINEAR DYNAMICS AND CHAOS
Description and analysis of the complex behavior exhibited by nonlinear equations. Emphasis is on classic chemical problems and other chaotic systems.

COLLOIDS—PRINCIPLES AND PRACTICE
Prerequisite: permission of instructor. Colloid science and applications in chemical and biochemical engineering, dispersion systems, interparticle forces, structure, texture, interfacial phenomena, and applications.

APPLIED SURFACTANT SCIENCE
Prerequisite: 610. The basic principles of surfactant science, the chemical engineering application of surfactants including use in polymerization media, separations, emulsions, microemulsion, and a rheology test.

ADVANCED POLYMER ENGINEERING
Prerequisite: 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer rheology.

ADVANCED PLANT DESIGN
Prerequisite: permission. Special treatment of process and equipment design, scale-up, optimization, process syntheses, process economics. Case problems.

RENEWABLE RESOURCES FOR ENVIRONMENTALLY BENEFICIAL PRODUCTION SYSTEMS
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.

HETEROGENOUS CATALYSIS
Kinetic and mechanistic studies of heterogeneous and homogeneous catalytic reactions; characterization and design of heterogeneous catalysts.

TOPICS IN CHEMICAL ENGINEERING
(May be repeated for a total of six credits.) Prerequisite: permission. Topics selected from new and emerging areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques.

CHEMICAL ENGINEERING REPORT
Prerequisite: permission of advisor. A relevant problem in chemical engineering is studied. Requirements are for student selecting non-thesis option. Final report must be approved by advisor and advisory committee.

MASTHER’S THESIS
(May be repeated to a maximum of six credits.) For properly qualified candidate for master’s degree. Credit awarded on the basis of original research in specific area of chemical engineering selected on basis of qualifications of staff and facilities.

ADVANCED TRANSPORT PHENOMENA
Prerequisite: 600. Advanced theory of transport phenomena such as aerodynamics, hydrodynamics, thermodynamics, chemical reaction engineering, transport of heat and mass, and fluid mechanics.

MULTIPHASE TRANSPORT PHENOMENA
Prerequisite: 600. General transport theory, kinematics, Cauchy’s lemma and the jump boundary conditions are developed followed by the theory of volume averaging. The single phase equations are then volume averaged to obtain the multiphase equations of change. The technique for using these equations and their practical significance is also covered.

ADVANCED REACTION ENGINEERING
Prerequisite: 605. Kinetics of heterogeneous systems, steady and unsteady state mathematical modeling of chemical reactors, fluidization and additional topics drawn from current literature.

ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS
Prerequisite: 610. Advanced topics in thermodynamics, including phase and reaction equilibrium at high temperatures, phase equilibrium for multiphase systems, reaction equilibrium in multiphase systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium thermodynamics and current topics from literature.

MOMENTUM TRANSPORT
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

NON-NEWTONIAN FLUID MECHANICS
Prerequisite: 600. Tensor, principal curvilinear coordinates, Newtonian viscometries, development of non-Newtonian constitutive equations. Special and general flows of various constitutive structures.

ENERGY TRANSPORT
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer starting with equations of continuity, momentum and energy.

TOPICS IN ENERGY TRANSPORT
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering.

MASS TRANSFER
Prerequisite: 600. Theory of mass transfer with applications to absorption, adsorption, distillation and heterogeneous catalysis.

PROCESS CONTROL
Prerequisite: 630. Introduction to modern control theory of chemical processes including cascade control, multivariate control and data sampled control.

POLYMER ENGINEERING TOPICS
Prerequisite: permission of instructor. Topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiscale flow, artificial fiber engineering.

CHEMICAL PROCESSING OF ADVANCED MATERIALS
Prerequisite: 605. Advanced materials such as ceramics, optical materials, sensors, catalysts; application of reaction engineering to solid-gel processing, ceramic processing, modified chemical vapor deposition.

ADVANCED CATALYST DESIGN
Prerequisite: 605. Development of catalysis theory and its application to the design of practical catalytic reactors.

ADVANCED POLLUTION CONTROL
Prerequisite: Permission. Analysis of current environmental research in analytical instrumentation, air and water pollution control, hazardous waste treatment, and nuclear waste disposal.

ADVANCED BIOCATALYSIS AND BIOTRANSMUTATIONS
Prerequisite: 3150/40-500 or permission of instructor. Focuses include: (a) high performance enzymes via chemical modification, recombinant technology, evolution, extremophiles, (b) applications of enzymes in biosynthesis, bioprocessing, biosensing, and bioremediation.
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<td>MULTISTORY BUILDING DESIGN</td>
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<td>ADVANCED SOIL MECHANICS</td>
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<td>ADVANCED GEOTECHNOLOGY TESTING</td>
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<td>FOUNDATION ENGINEERING I</td>
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<td>NUMERICAL METHODS IN GEOTECHNICAL ENGINEERING</td>
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<td>ROCK MECHANICS</td>
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<td>SANITARY ENGINEERING PROBLEMS</td>
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<td>COASTAL ENGINEERING</td>
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<td>PLATES AND SHELLS</td>
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<td>VISCOELASTICITY AND VISCOPLASTICITY</td>
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<td>DYNAMIC PLASTICITY</td>
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Graduate Courses
ELECTRICAL ENGINEERING 4400:

548 OPTICAL COMMUNICATION NETWORKS
Optical waveguides and optical integrated components, optical transmitters and receivers, optical communication network design.
3 credits

549 DIGITAL COMMUNICATION
Introduction to digital communication theory and systems; coding of analog and digital information; digital modulation techniques. Introduction to information theory.
3 credits

553 ANTENNA THEORY
3 credits

555 MICROWAVES
Dynamic fields. Maxwell’s equation and wave equations. Field analysis of wave guides, microwave components, techniques and systems.
4 credits

557 WIRELESS COMMUNICATIONS
Prerequisite: 549. Theory and analysis of wireless communication systems, wireless propagation, frequency allocation, communication modulation, multipath channel characteristics, diversity, cellular, and PCS services and standards.
3 credits

561 OPTICAL ELECTRONICS AND PHOTONIC DEVICES
Lightwave and imaging photoconductive principles and optical electronic device technology.
3 credits

565 PROGRAMMABLE LOGIC
Electronic circuitry considerations in logic circuits, methods of sequential, threshold logic analysis, synthesis, development of computer arithmetic elements; memory, storage devices.
4 credits

570 EMBEDDED SYSTEMS INTERFACING
Prerequisite: Permission by instructor. Microcontroller structures and embedded peripherals. Interfaces to physical environments. Software access to peripherals, timers, A/Ds and D/Acs. Synchronous and asynchronous communications. Interrupts. Real-time operating systems.
3 credits

572 CONTROL SYSTEMS II
State variable analysis, design of control systems. Discrete systems, analysis, digital computer control. Experiments include hybrid, AL control system, digital computer control.
3 credits

575 SYSTEM SIMULATION
Computer simulation of dynamic systems. Discrete system stability, linear multistep and Runge-Kutta methods, nonlinear systems, stiff systems, distributed systems and real-time computing.
3 credits

583 POWER ELECTRONICS I
Elements of power electronic circuits. Rectifiers, converters, inverters analysis and design.
3 credits

584 POWER ELECTRONICS LABORATORY AND DESIGN PROJECT
Prerequisite: 583 or equivalent. Experiments on different types of power electronic converters: AC/DC, DC/DC, DC/AC and AC/DC. Design project to include design, simulation, building, and testing of a power electronic circuit.
2 credits

585 ELECTRIC MOTOR DRIVES
Application of electric machines, choice of motor for particular drive. Application of power semiconductor circuits and related boundary value problems.
3 credits

589 DESIGN OF ELECTRIC AND HYBRID VEHICLES
3 credits

589 SPECIAL TOPICS: ELECTRICAL ENGINEERING
May be taken more than once.) Prerequisite: permission of department chair. 3 credits
Topics in electrical engineering.

641 RANDOM SIGNAL ANALYSIS
Analysis, interpretation and smoothing of engineering data through application of statistical and probability methods.
3 credits

643 INFORMATION THEORY AND CODING
Prerequisite: 541. Introduction to advanced techniques in fields. Topics include application of linear codes and data compression, information and coding theory. 3 credits

648 OPTICAL NETWORK ARCHITECTURE
Prerequisite: 548. Principles of optical network architecture, analysis, design, control, and fault management.
3 credits

650 Electromagnetic Theory I
3 credits

651 Electromagnetic Theory II
Prerequisite: 650 or permission of the course instructor. Scattering, TEM waves; guided wave theory; transmission lines, closely guided waves and cavities, modal orthogonality and completeness, Green’s function, excitation and coupling, open-boundary waveguides.
3 credits

652 COMPUTATIONAL ELECTROMAGNETICS
Prerequisite: 650 or permission of course instructor. Analytic and numerical techniques for electromagnetic fields, conformal mapping, finite difference method, finite element method, and the method of moments.
3 credits

655 ADVANCED ANTENNA THEORY AND DESIGN
Prerequisite: 553 or equivalent. Basic properties and recent advances of microstrip antennas. Analysis and design of reflector antennas. Analysis and synthesis of linear and planar antenna arrays.
3 credits

666 SIMULATION OF NANOSCALE AND MOLECULAR-SCALE SYSTEMS
The course describes modern simulation techniques for the analysis of nanoscale phenomena: molecular dynamics, fast algorithms for multiatomic and multielectron systems, ab initio methods in electronic structure calculation.
3 credits

673 NONLINEAR CONTROL
Corequisite: 674 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, harmonics, phase chaos, conservative systems, Lyapunov theory, bifurcation of attractors, and routes to chaos.
3 credits

674 CONTROL SYSTEM THEORY
Prerequisite: 575. Course will cover modern control theory for linear systems. Controllability, observability, minimal realizations of multivariable systems, stability, state variable feedback, estimation, and an introduction to optimal control. 3 credits

677 OPTIMAL CONTROL I
Prerequisite: 674. Formulation of optimization problem; application of variational calculus, maximum principle and optimality principle to control problems. Computational techniques in optimization.
3 credits

680 DYNAMICS AND CONTROL OF POWER ELECTRONIC CIRCUITS
Prerequisites: 583 or equivalent. Analysis and simulation of power electronic circuits and systems. Topics include describing functions, power electronics, power circuit design, power conversion, power semiconductor devices, and digital control of power semiconductor devices.
3 credits

686 DYNAMICS OF ELECTRIC MACHINES
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.
3 credits

687 POWER ELECTRONICS II
Prerequisite: 583 or equivalent. Effects of the nonidealities of the power circuit components, magnets, base and gate drivers, thyristor commutation circuits, heat transfer and thermal issues. Analysis and design of advanced power circuits.
3 credits

688 CONTROL OF ELECTRIC MACHINES
Prerequisite: graduate student in Electrical Engineering. Elements of control circuits for electric drives, techniques for torque/speed control of electric machines.
3 credits

693 POWER SEMICONDUCTOR DEVICES
Prerequisite: 575. Design of the power electronics circuits for electric drives, techniques for torque/speed control of electric machines.
3 credits

705 TOPICS IN ELECTROMAGNETICS
Prerequisite: 651. Introduction to advanced techniques in fields. Topics include application of advanced techniques in engineering fields to advanced systems. 3 credits

722 MODEL REDUCTION TECHNIQUES FOR CONTROL SYSTEMS
Prerequisite: 674 or permission of the instructor. Classical, modern, and optimal techniques for control. Reduced order models for linear, nonlinear, and infinite dimensional systems. Minimal realizations of multi-variable systems are also considered.
3 credits

744 ADVANCED LINEAR CONTROL SYSTEMS
Prerequisites: 675 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 H8-optimality criterion for controller design is included. Special emphasis will be given to the robust stabilization problem and the disturbance attenuation problem.
3 credits

755 ADVANCED LINEAR CONTROL SYSTEMS
Prerequisite: 675 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 H8-optimality criterion for controller design is included. Special emphasis will be given to the robust stabilization problem and the disturbance attenuation problem.
3 credits

777 OPTIMAL CONTROL II
Prerequisite: 677 or advanced degree in control systems. Advanced degree in control systems: controller design, output-feedback issues, including loop transfer recovery, optimal observer design, reduced-order controllers, frequency weighting, and decentralized control. 3 credits

788 ADAPTIVE CONTROL
Prerequisite: 671 or permission of instructor. This course will provide the advanced graduate student with the techniques required for the control of time-varying nonlinear and stochastic systems. Topics include minimum prediction error control, least squares estimation, certainty equivalence adaptive control, Kalman filtering, minimum variance control, LQG control and stochastic adaptive control.
3 credits

793 ADVANCED TOPICS IN CONTROL
Prerequisite: 776. Discussions of recent advances in control systems.
3 credits

794 ADVANCED SEMINAR
May be taken more than once.) Prerequisite: permission of department chair. Advanced level coverage of specialized topics. For student seeking Ph.D. in engineering.

898 PRELIMINARY RESEARCH
Prerequisite: Instructor permission. Approval of dissertation director. Preliminary investigations prior to submission of a dissertation proposal to the Interdisciplinary Doctoral Committee.
1-6 credits

899 DOCTORAL DISSERTATION
Prerequisite: acceptance of research proposal by the Interdisciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student. 1-6 credits
630 VIBRATIONS OF DISCRETE SYSTEMS 3 credits
Prerequisite: 531 or equivalent. Study of vibrations of multidegree of freedom systems includ-
ing free and forced vibrations, damped and undamped, normal mode vibrations and matrix iteration techniques. Application to seismic design and shock design.

631 KINEMATIC DESIGN 3 credits
The geometry of constrained motion. Analysis of relative plane motion using vectors and the digital computer. Curvature theory. Synthesis of linkages and gearing. Introduction to computer- 

632 RELIABILITY IN DESIGN 3 credits
Prerequisites: 623 and/or 597. Reliability determination of mechanical components and systems and its use in design. Distribution, reliability evaluation, normal and log-normal theories, Weibull theory, life assurance, renewal theory, and confidence limits.

633 COMPUTERIZED MODAL ANALYSIS OF STRUCTURES 3 credits
Prerequisite: 630 or equivalent. Mode analysis theory and measurement techniques, digital sig- nal processing concepts, structural dynamics theory, modal parameter estimation with "hands-on" experience in the application of modal measurement methods in vibration analysis.

634 ADVANCED DYNAMICS OF ROTATING MACHINERY 3 credits
Prerequisites: 530 or equivalent. Dynamic modeling and simulation of complex rotor-bearing systems. Steady state, transient and stability analysis with inertia, gyroscopic, imbalance, rotor-bow, disk-skew and impeller vibration effects.

635 WAVES IN SOLIDS AND FLUIDS 3 credits

642 SYSTEM ANALYSIS AND CONTROL DESIGN 3 credits
Uniform methods of modeling and response analysis, controllability and observability, stability theory and analysis of linear and nonlinear engineering processes. Design of feedback con- trols for optimum performance for multivariable real-time control applications.

645 PROCESS IDENTIFICATION AND COMPUTER CONTROL 3 credits
Prerequisite: Permission by instructor. Obtaining mathematical models of processing from noisy observations. Methods of digital control design. Case studies on computer control of selected processes.

646 EXPERT SYSTEMS IN CONTROLS AND MANUFACTURING 3 credits
Prerequisite: 440 or equivalent. Expert systems: Theory and application for manufacturing and control systems. Neural networks and fuzzy sets for process identification and controller design. Applications and case studies in industry.

650 TRIBOLOGY 3 credits
Fundamentals of friction lubrication and wear treated; includes basic theory, advanced topics, applications to bearings, seals, gears, cams. Specific topics include adhesive and abrasive fric- tion-wear, boundary lubrication, fluid film lubrication and bearings, rolling element bearings, bearing dynamics.

650 MICRO- AND NANO-FLUID DYNAMICS 3 credits
Prerequisite: 661 or equivalent. The course includes fundamentals of the analytical and numerical solutions of the problems pertinent to fluid mechanics on nano- and micro- scales. Applications will include micro-engines, MEMS, micro-filters, and synthesis of nanomaterials.

656 MECHANICAL BEHAVIOR OF NONSTRUCTURED MATERIALS AND COMPOSITES 3 credits
An overview of Lattice Dislocation Theory, Nanomaterials Structured: Processing and Proper-
ties, Grain Boundaries, Nanodentation, Electron Microscopy, Atomic Force Microscopy, Car-
bon Nanotubes, Polymer and Bio-MEMS.

660 ENGINEERING ANALYSIS 3 credits
Prerequisite: B.S. in engineering. Study of analysis techniques as applied to specific engi-
neering problems. Applications include beam deflections, acoustics, heat conduction and hydromechanical stability.

661 FAILURE ANALYSIS OF MECHANICAL SYSTEMS 3 credits
Prerequisite: B25 or permission. This course emphasizes engineering techniques for predict-
ing, preventing, and reducing failure of mechanical systems. Students will learn how to link theory with practice by examining case studies of structural and mechanical failure, and how to obtain practical experience in modeling real complex systems in an end-to-end project.

662 MICROSCALE HEAT AND MASS TRANSFER 3 credits
Prerequisites: 560 or equivalent. Kinetics theory; classical and quantum mechanics; heat conduction in solids, photons in solids, free electrons in metals, Boltzmann transport theory; hyperbolic heat conduction; thermal conductivity of thin films, laser material processing.

663 WEB-BASED SOLID MODELING AND E-MANUFACTURING 3 credits
Prerequisite: 563 or equivalent, or permission. Team-based collaborative design with a web-based solid modeling library, feature-based manufacturing analysis, and process planning using cross-platform interoperable tools including Java, VRML, for optimized product realiza-

664 FUNDAMENTALS OF CRYSTALIZATION AND SOLIDIFICATION 3 credits
Prerequisites: 615, 616. Topics include nonhomogeneous or nonlinear boundary value prob-
lems of heat conduction, heat transfer with melting, solidification and ablation, heat transfer in porous systems and hydrodynamically and thermally unstable convection.

672 APPLIED STRESS ANALYSIS II 3 credits

673 ADVANCED MODAL ANALYSIS OF STRUCTURES 3 credits
Prerequisite: 623 or equivalent. Structural excitation techniques. Modal parameter estimation. System modification; mass/stiffness/damping matrices substructuring. Prediction and evalua-
tion of structural modified dynamic characteristic.

674 OPTIMIZATION THEORY AND APPLICATIONS 3 credits
Prerequisite: Permission by instructor. Theory of optimization in engineering systems, develop-
ment and method of solution optimization problems for physical processes, large systems. Use of dynamic programming, operational research methods of system optimization and control.

675 ADVANCED METHODS IN ENGINEERING ANALYSIS 3 credits
Applications of finite difference and finite element methods, variational methods, integral methods and similarity transforms to engineering problems in stress transfers, fluid mechanics and vibrations.

676 ADVANCED SEMINAR IN MECHANICAL ENGINEERING 1-4 credits
May be repeated for a total of nine credits. Prerequisite: permission of department chair.

689 PRELIMINARY RESEARCH 1-6 credits
Prerequisite: approval of dissertation proposal by Interdisciplinary Doctoral Committee.

698 DOCTORAL DISSERTATION 1-6 credits
May be taken more than once. Prerequisite: acceptance of research proposal by the Inter-
disciplinary Doctoral Committee and approval by the dissertation director. Original research by the doctoral student.

BIOMEDICAL ENGINEERING 4800:

622 PHYSIOLOGICAL CONTROL SYSTEMS 3 credits
The basic techniques employed in control theory, systems analysis, and model identification as they apply to physiological systems.

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.

531 Image science 3 credits
Prerequisites: Permission of the instructor. Principles of image science, image performance parameters and image assessment techniques of medical imaging systems, with emphasis on digital radiography, tomographic imaging, ultrasound and magnetic resonance.

532 PHYSICS OF MEDICAL IMAGING 3 credits
Physical principles of medical imaging modalities with emphasis on the properties, general mechanisms and interaction of radiation with matter, physics of the image formation and opti-
mization.
650 EXPERIMENTAL TECHNIQUES IN BIOMECHANICS  3 credits
Prerequisites: Permission. Principles of testing and measuring devices commonly used for biomedical and biotechnology research. Laboratory techniques for material science, engineering, and business.

570 HUMAN FACTORS ENGINEERING  3 credits
Reliability and human error; human capabilities and limitations, crew protection, display systems, controls and control actions, interface design principles, risk management, safety and accident prevention.

600 BIOMECHANICAL ENGINEERING COLLOQUIUM  1 credit
Prepared only for doctoral and graduate students in Biomedical Engineering. Open to seminar designated to introduce students to current topics in biomedical engineering research, design, and business.

601 BIOMEDICAL INSTRUMENTATION I  4 credits
Prerequisites: 300.561, 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.

611 BIOMEDICAL SIGNALS  3 credits
Statistics and experimental design topics for the biomedical and biotechnology engineers. Topics include: distributions, hypothesis testing and estimation, ANOVA, probit analysis and other statistical tests.

620 NEURAL NETWORKS  3 credits
Examination of highly parallel, distributed architectures for computing that are, to varying degrees, derived from structures observed in biological nervous systems. After an overview of how real neurons operate, the course will examine both artificial and modern computing architectures. Comparisons will be made with traditional serial machines and applications for which neural networks seem most promising will be examined.

621 SENSORY SYSTEMS ANALYSIS  3 credits
Prerequisite: Permission. Study of various sensory modalities from a systems engineering perspective. Techniques from linear and nonlinear systems analysis are applied to vision, hearing, touch, and pain perception. Technical vision is covered in depth. All other modalities are covered.
624 SEMINAR: EDUCATIONAL PSYCHOLOGY 3 credits
In-depth study of research in selected areas of learning, development, evaluation, and motivation. Offered in face-to-face and online formats.

629 FUNDAMENTAL IN LEARNING 1 credit
The nature, purpose, history and philosophy of e-learning will be explored through examination of associated trends and issues. Establishment of a learning community will be addressed in the face-to-face course component. E-learning course/lecture outlines will be discussed.

630 TOPICAL SEMINAR IN COMPUTER-BASED EDUCATION 3 credits
May be repeated for a total of six credits. Advanced topics related to development, implementation, research and evaluation in C.B.E. Student involvement emphasized, required. Knowledge of programming language recommended.

637 PHILOSOPHIES OF EDUCATIONAL TECHNOLOGY 3 credits
To introduce students to the many philosophies of educational technologies and the manner in which information technology especially influences our pedagogy.

640 TECHNIQUES OF RESEARCH IN THE CLASSROOM 3 credits
Research methods and techniques commonly used in education and behavioral sciences; preparation of research reports. Includes library, historical, survey and experimental research methods. Delivered in face-to-face web-enhanced format and fully online format.

642 INTRODUCTION TO CLASSROOM ASSESSMENT FOR TEACHERS 3 credits
The focus of this class is on the practical classroom assessment skills future and practicing teachers need for decision-making about student learning.

646 MULTICULTURAL COUNSELING 3 credits
Prerequisites: 5600.634 or permission of instructor. An examination of multicultural counseling theory and research necessary to work with culturally diverse people.

648 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN 3 credits
An exploration of individual and family development. Emphasis will be placed on understanding the relationship between the individual and his/her family.

650 IMPLEMENTING ASSESSMENT IN THE CLASSROOM 3 credits
Prerequisite: 642. Students in this class will develop, implement, and evaluate a comprehensive nine-week assessment plan.

651 DATA-DRIVEN DECISION MAKING FOR EDUCATORS 3 credits
The purpose of this course is to facilitate the understanding and utilization of data to identify classroom/school improvement needs and make informed decisions in effecting change.

652 INTRODUCTION TO EDUCATIONAL EVALUATION 3 credits
Introduction to core concepts of educational evaluation including the purpose, processes, standards, and models of evaluation. Students will develop skills in interpreting and critiquing evaluation reports.

653 PRACTICAL APPLICATIONS OF EDUCATIONAL EVALUATION 3 credits
Prerequisite: 652. This course is designed as the second part of educational evaluation with a focus on the application of evaluation concepts and theory to real-world situations.

654 MASTER’S PROJECT IN ASSESSMENT AND EVALUATION: PART 1 3 credits
Prerequisite: permission of advisor. This capstone course is the culminating learning experience for the master’s degree in Assessment and Evaluation. Students complete a comprehensive evaluation project of their choice.

655 MASTER’S PROJECT IN ASSESSMENT AND EVALUATION: PART 2 3 credits
Prerequisite: 654, permission of advisor. This capstone course is the culminating learning experience for the master’s degree in Assessment and Evaluation. Students complete a comprehensive evaluation project of their choice.

659 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.

669 MASTER’S PROBLEM 1-4 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.

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
Prerequisite: 650 or equivalent. An examination of the development and growth of higher education in the Western world, with special emphasis given to higher education’s development in United States. Delivered in face-to-face web-enhanced format and fully online format.

705 SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION 3 credits
May be repeated for a total of six credits) Prerequisites: Admission to a College of Education doctoral program or permission. Inquiry into selected ideological, economic and philosophical factors affecting educational development in United States and other countries.

710 ADULT LEARNING, DEVELOPMENT, AND MOTIVATION 3 credits
Prerequisite: 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, affective, and social factors affecting classroom learning processes.

712 TEACHER BEHAVIOR AND INSTRUCTION 3 credits
Prerequisite: 600. Intensive survey of theoretical and empirical literature involving teacher and teacher-related instruction. A student report on theory, empirical research and applications in areas of individual interest.

740 RESEARCH DESIGN 3 credits
Prerequisite: Admission to a College of Education doctoral program or permission. Course content includes statement problem, research questions, literature review, choosing a sample, selecting an appropriate research design and data collection method, and ethical and legal issues.

741 DATA COLLECTION METHODS 3 credits
Prerequisites: 740 and admission to a College of Education doctoral program or permission. Emphasis on selecting, developing, and administering common data collection methods in educational and social science research including standardized tests, inventories, questionnaires, focus groups, and content analysis.

742 STATISTICS IN EDUCATION 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.

744 QUALITATIVE METHODS I 3 credits
Provides an overview of theory about and hands-on experience with methods of qualitative research. Techniques of participant-observation, interviewing, and document collection will be covered.

745 QUALITATIVE METHODS II 3 credits
Prerequisite: 744. Provides more advanced experience with theory and methods of qualitative research. Data collection and analysis will focus on students’ research interests and dissertation topics.

788 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: Admission to a College of Education doctoral program or permission. Intensive study of research methods applicable to education. Emphasis on developing a dissertation proposal.

897 INDEPENDENT STUDY 1-4 credits
May be repeated for a total of eight credits.) Prerequisites: permission of department chair and instructor. Specific area of inquiry within humanistic and behavioral foundations of education determined in advance by student and faculty advisor.

INSTRUCTIONAL TECHNOLOGY 5150:

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.

610 INTRODUCTION TO INSTRUCTIONAL TECHNOLOGY 3 credits
Provides the learner with foundational understanding of technology standards for the study of technology’s impact on teaching and learning in the 21st Century.

614 PLANNING FOR TECHNOLOGY 3 credits
Corequisite: 610. Emphasizes the process of planning for the use of technology in schools, businesses, institutions. Includes plans for faculty support and alternative management of communications hardware and software.

631 INSTRUCTIONAL DESIGN 3 credits
Corequisite: 610. The theories and practice of Instructional Design (ID) involves a systematic approach to the analysis, design, development, evaluation, and implementation of effective instruction.

632 WEB-BASED LEARNING SYSTEMS 3 credits
Corequisite: 610. Help students become proficient in the design, development, and evaluation of web-based learning systems for training and education. Delivered in a web-enhanced blended format.

633 MULTIMEDIA/HYPERMEDIA 3 credits
Prerequisite: 610. Introduces students to a variety of Multimedia and Hypermedia tools (digital, image, audio, video, and authoring) and demonstrates how these products can be delivered via web to support learning.

634 VISUAL LITERACY 3 credits
This course will combine a basic understanding of design principles and concepts with research findings on the use of visuals in the learning process.

635 EMERGING TECHNOLOGIES IN INSTRUCTION 3 credits
This course examines emerging technologies (hardware, software, systems) that support teaching/learning, and methods for assessing the utility of any technology used for instructional purposes.

636 TOPICAL SEMINAR IN EDUCATIONAL TECHNOLOGY 3 credits
Current trends and practices in educational technology. Computer authoring software, tools and processes for instructional video production, presentation systems.

638 INTEGRATING AND IMPLEMENTING TECHNOLOGY 3 credits
Designed to equip teachers with the necessary tools, processes, and strategies to support the integration and implementation of effective use of technology in the classroom.

639 STRATEGIES FOR ONLINE TEACHING AND LEARNING 3 credits
Corequisite: 610. Prepare instructors to make the transition from teaching in a physical classroom to facilitating learning in a virtual classroom. Delivered in a fully online format.

679 MASTER’S PROJECT 2-3 credits
Prerequisites: permission of 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.

697 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.

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.

591-592 WORKSHOP 1-3 credits
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units. Delivered in face-to-face web-enhanced format and fully online format.

601 ORGANIZATIONAL LEADERSHIP 3 credits
Prerequisite: SKU0640. 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.

602 MANAGEMENT OF PHYSICAL RESOURCES 3 credits
A comprehensive view of the processes, practices, and new dimensions involved in the planning and management of educational facilities.

603 MANAGEMENT OF HUMAN RESOURCES 3 credits
An orientation to the major dimensions of the personnel function.
895 6 DOCTORAL INTERNSHIP 14 credits
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. Students must be able to demonstrate analytical skills in dealing with a problem in education.
(May be repeated for a total of six credits.)

899 9 DOCTORAL DISSERTATION 5-20 credits
Prerequisites: approval of advisor. Specific research problem that requires student to apply research skills and techniques to the problem being studied.

HIGHER EDUCATION ADMINISTRATION 5190:

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. Delivered in face-to-face web enhanced format and fully online format.

521 LAW AND HIGHER EDUCATION 3 credits
Legal aspects of higher education, sources of law and authority presented; impact on inter- action with, and implications of the administration of higher education discussed. Delivered in face-to-face web enhanced format and fully online format.

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. Delivered in face-to-face web enhanced format and fully online format.

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. Delivered in face-to-face web enhanced format and fully online format.

590 WORKSHOP 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.

600 ADVANCED ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 3 credits
Prerequisite: permission. (To be taken during student’s final semester of coursework) Examination of higher education; the planning and decision process perspectives and issues, including those that pose particular concern to students. Capstone experience for students programs focused program.
Delivered in face-to-face web enhanced format and fully online format.

601 INTERNSHIP IN HIGHER EDUCATION 1-3 credits
May (be repeated for a total of six credits) Prerequisite: permission; corequisite: 602. Intensive work experience in operations of an institution of higher education, related to student’s own program of studies and professional goals. Delivered in face-to-face web enhanced format and fully online format.

602 INTERNSHIP IN HIGHER EDUCATION SEMINAR 1 credit
May (be repeated for a total of three credits) Prerequisite: permission; corequisite: 601. To be taken in conjunction with internship for synthesis of problems encountered in internship experience and to provide the opportunity to share ideas and experiences from various areas of higher education internship placement. Delivered in face-to-face web enhanced format and fully online format.

610 DIVERSITY ISSUES IN HIGHER EDUCATION 3 credits
Examination of psychological, sociological, linguistic, and theories related to diverse groups and issues within higher education. Theoretical applications and perspectives to administrative practice emphasized.

620 FINANCE AND HIGHER EDUCATION 3 credits
Facilitates student’s understanding of how American Higher Education is financed, identifies various methodologies used, and explores the political and economic factors associated with these processes. Delivered in face-to-face web enhanced format and fully online format.

626 POLICY, ASSESSMENT, AND ACCOUNTABILITY IN HIGHER EDUCATION 3 credits
Examines student assessment, policy-making, and accountability in higher education. Theoretical approaches employed, internal and external policy actors identified and implementation issues are examined. Delivered in face-to-face web enhanced format and fully online format.

635 INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE COLLEGE INSTRUCTOR 3 credits
Selected instructional strategies and techniques which are appropriate to instructional planning and development of college-level courses. Delivered in face-to-face web enhanced format and fully online format.

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. Delivered in face-to-face web enhanced format and fully online format.

POSTSECONDARY TECHNICAL EDUCATION 5400:

500 POSTSECONDARY LEARNER 3 credits
Describes characteristics of the postsecondary learner; studies issues, factors, and strategies pertinent to successful facilitation of learning in a variety of postsecondary learning environments. Delivered in face-to-face web enhanced format and fully online format.

501 LEARNING WITH TECHNOLOGY 3 credits
An overview of informational learning and technological tools used and applied in workforce education and training. Designed for practitioners/learners for learning, research, and evaluation.
Delivered in face-to-face web enhanced format and fully online format.

505 WORKPLACE EDUCATION FOR YOUTH AND ADULTS 3 credits
Historical and contemporary operations of workforce education for youth and adults. Includes study of social, economic, and political influences that stimulate growth and expansion of workforce education. Delivered in face-to-face web enhanced format and fully online format.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>510</td>
<td>Training in Business and Industry</td>
<td>3 credits</td>
<td>Examine the role and mission of the training function in the modern industrial setting. Focus on strategies and techniques used in industrial training or training supervision positions. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>520</td>
<td>Postsecondary Instructional Technology</td>
<td>3 credits</td>
<td>Experiences in using, developing, and evaluating instructional technology and media used in postsecondary classroom environments. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>530</td>
<td>Systematic Curriculum Design for Postsecondary Instruction</td>
<td>3 credits</td>
<td>Processes for breaking down an occupation to determine curricula of their laboratory and classroom, developing this content into an organized sequence of instructional units. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>540</td>
<td>Educational Gerontology Seminar</td>
<td>3 credits</td>
<td>Designed for persons practicing in fields of gerontology or preparing for a specialization in educational gerontology. Course introduces major concepts of gerontology, life history, and community aging.</td>
</tr>
<tr>
<td>550</td>
<td>Technical Communication and Writing for Postsecondary Professionals</td>
<td>3 credits</td>
<td>Special course designed as an in-service upgrade program, frequently provided with the support of national foundations.</td>
</tr>
<tr>
<td>560</td>
<td>The Two-Year College</td>
<td>3 credits</td>
<td>Introduces students to the nature, purpose, and philosophy of the two-year college. Includes an examination of two-year colleges, technical schools, proprietary schools offering instruction at the postsecondary level. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>570</td>
<td>Advanced System Design: Needs Assessment and Evaluation</td>
<td>3 credits</td>
<td>An examination of the instructional design in workforce education and training and supporting research in effective performance-based program needs, assessment, and evaluation processes. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>580</td>
<td>Postsecondary Teacher Leadership</td>
<td>3 credits</td>
<td>An examination of the role of supervisor of postsecondary instruction, facilitation and evaluation of postsecondary instruction, professional development, as well as related leadership and management issues. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>590</td>
<td>Postsecondary Distance Learning</td>
<td>3 credits</td>
<td>Introduces students to the nature, purpose, and philosophy of distance learning; examination of current scope, history, theory, institutions, and programs of distance learning. Delivered in face-to-face web-enhanced format and fully online format.</td>
</tr>
<tr>
<td>600</td>
<td>Advanced Instructional Applications Seminar</td>
<td>3 credits</td>
<td>Prerequisites: 550, 520, 530, and 535. Provides an environment for students to apply learned teaching skills, evaluate their teaching abilities, and fine-tune skills independently.</td>
</tr>
<tr>
<td>610</td>
<td>Internship in Postsecondary Education</td>
<td>3 credits</td>
<td>Prerequisites: 550, 520, 530, and 535. Teaching or curriculum development under supervision from the University and the learning organization. Includes a seminar and portfolio development.</td>
</tr>
<tr>
<td>620</td>
<td>Single Experience: May be repeated for a maximum of 6 credits.</td>
<td>3 credits</td>
<td>(May be repeated for a maximum of 6 credits.) Individuals are selected for participation on a competitive basis.</td>
</tr>
<tr>
<td>630</td>
<td>Master’s Program</td>
<td>3 credits</td>
<td>(May be repeated for a maximum of 6 credits.) In-depth study of an instructional or curricular problem in workforce education or training. Required of all students.</td>
</tr>
<tr>
<td>640</td>
<td>Advanced Behavioral Strategies for the Educator</td>
<td>3 credits</td>
<td>(May be repeated for a maximum of 6 credits.) Concepts and strategies to support the development of student learning.</td>
</tr>
<tr>
<td>650</td>
<td>Seminar in Teaching Foreign Languages</td>
<td>3 credits</td>
<td>(May be repeated for a maximum of 6 credits.) Issues and subjects related to research in foreign language education and language learning theories.</td>
</tr>
<tr>
<td>660</td>
<td>Field Experience: Advanced Instruction Techniques</td>
<td>2 credits</td>
<td>Corequisite: 520. Instructional experience in the 7-12 classroom to apply theory and research to practice.</td>
</tr>
<tr>
<td>670</td>
<td>Content Area Literacy</td>
<td>3 credits</td>
<td>Examines instructional strategies for constructing meaning in content subjects (e.g., science, social studies, mathematics, reading, and social studies).</td>
</tr>
<tr>
<td>680</td>
<td>Teaching Reading to Culturally Diverse Learners</td>
<td>3 credits</td>
<td>Knowledge, skills, and dispositions to employ effective methods of teaching reading to diverse populations and learners whose language patterns are nonstandard.</td>
</tr>
<tr>
<td>690</td>
<td>Principles of bilingual/Multicultural Education</td>
<td>3 credits</td>
<td>An introduction to the theoretical, cultural, sociolinguistic bases of bilingual/multicultural education. Legislation, court decisions, program implementation considered.</td>
</tr>
<tr>
<td>700</td>
<td>Teaching Language/Literacy to Second Language Learners</td>
<td>4 credits</td>
<td>Course applies methodologies for teaching reading, language arts in the bilingual/multicultural, including bilingual education for language and culture are stressed.</td>
</tr>
<tr>
<td>710</td>
<td>Teaching Mathematics, Social Studies and Science to Bilingual Students</td>
<td>3 credits</td>
<td>Prerequisites: elementary education majors, 5650/233, 336, 338; secondary education majors, 5650/231; science, social studies in the bilingual/multicultural. Course applies methodologies for teaching mathematics, science, social studies in the bilingual multicultural classroom. The bilingual student’s native language stressed.</td>
</tr>
<tr>
<td>720</td>
<td>Techniques for Teaching English as a Second Language</td>
<td>4 credits</td>
<td>Course includes teaching language skills to Limited English Proficient (LEP) students in areas related to language placement assessments, administration of language assessment tests, and selection and evaluation of materials.</td>
</tr>
<tr>
<td>730</td>
<td>Nature, History, and Philosophy of Science</td>
<td>3 credits</td>
<td>(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.</td>
</tr>
<tr>
<td>740</td>
<td>Literacy for Multilingual Literatures</td>
<td>3 credits</td>
<td>Preconference with a focus on teaching instruction in the classroom. Program organizing, instruction, use of and interpret language development protocols, strategies for word skill development, comprehension and reading in English as a second language.</td>
</tr>
<tr>
<td>750</td>
<td>Instructional Technology Applications</td>
<td>3 credits</td>
<td>Focus on developing learning competencies in the use of instructional technology to enhance the student’s personal and professional productivity.</td>
</tr>
<tr>
<td>760</td>
<td>Workshop for Educators to Improve Teaching Skills in a Specific Area of the Curriculum</td>
<td>1-3 credits</td>
<td>Workshop for educators to improve teaching skills in a specific area of the curriculum. (May be repeated for a maximum of 6 credits.)</td>
</tr>
<tr>
<td>770</td>
<td>Educational Technology</td>
<td>1-4 credits</td>
<td>Special courses designed as in-service upgrade programs. Frequently provided with support of national foundations.</td>
</tr>
<tr>
<td>780</td>
<td>Concepts of Curriculum and Instruction</td>
<td>3 credits</td>
<td>A study of recent research and theory in curriculum and instruction with special attention to applications to educational decision making.</td>
</tr>
<tr>
<td>790</td>
<td>Seminar in Trends and Issues in Curriculum and Instruction</td>
<td>3 credits</td>
<td>A study of recent research and theory in curriculum and instruction with special attention to applications to educational decision making.</td>
</tr>
<tr>
<td>800</td>
<td>Philosophy and Organization of Middle Schools</td>
<td>3 credits</td>
<td>Philosophy, theory, research, and exemplary organizational, assessment, and evaluation components of middle level education.</td>
</tr>
<tr>
<td>810</td>
<td>Middle School Curriculum and Instruction</td>
<td>3 credits</td>
<td>Theories, research, and exemplary practices focusing on middle school curriculum and instruction.</td>
</tr>
<tr>
<td>820</td>
<td>Research Seminar and Instruction and Intensive Studies</td>
<td>3 credits</td>
<td>This course should be taken at the beginning of the Master’s with a research program as an introduction to curriculum and the dynamics of teaching.</td>
</tr>
<tr>
<td>830</td>
<td>Instructional and Management Practices</td>
<td>3 credits</td>
<td>Students learn to use teaching models and management strategies to become effective in instruction and management. Also included are educational issues that relate to effective management and instruction.</td>
</tr>
<tr>
<td>840</td>
<td>Advanced Instructional Techniques: Modern Languages P-8</td>
<td>3 credits</td>
<td>Prerequisites: 610 or Program of Instruction. Focus is on theories of language acquisition, models of instruction suited to teaching foreign languages and cultures in the elementary school grades, and strategies that promote appropriate levels of language competence and proficiency for young learners.</td>
</tr>
<tr>
<td>850</td>
<td>Children’s Literature in the Curriculum</td>
<td>3 credits</td>
<td>Examination of literary genre with emphasis on methods and techniques for presenting literary genres to children in preschool, elementary, and middle grades.</td>
</tr>
<tr>
<td>860</td>
<td>Contemporary Issues in Literacy Instruction and Phonics</td>
<td>3 credits</td>
<td>Survey course explores current research in reading and writing as constructive processes of meaning-making.</td>
</tr>
<tr>
<td>870</td>
<td>Special Topics: Curriculum and Instruction Studies</td>
<td>3 credits</td>
<td>Prerequisite: permission of instructor. (May be repeated with a change in topic for a maximum of 6 credits.) Groups study special topics of critical, contemporary concern in professional education.</td>
</tr>
<tr>
<td>880</td>
<td>Literacy Assessment Practicum</td>
<td>3 credits</td>
<td>Laboratory experience with small groups and individuals. A student diagnoses, implements procedures, and follows prescribed reading improvement. (May be repeated for a maximum of 6 credits.)</td>
</tr>
<tr>
<td>890</td>
<td>Reading Programs in Secondary Schools</td>
<td>3 credits</td>
<td>For all students as part of the professional development. Focus is on developing reading improvement programs, for all secondary education programs.</td>
</tr>
<tr>
<td>900</td>
<td>Assessment of Reading Difficulties</td>
<td>3 credits</td>
<td>Prerequisite: 625. Examinations formal and informal assessments and intervention strategies for children with reading difficulties.</td>
</tr>
<tr>
<td>910</td>
<td>Advanced Behavioral Strategies for the Educator</td>
<td>3 credits</td>
<td>This course provides the educator with an advanced examination of strategies designed to improve student behavior in the school setting.</td>
</tr>
<tr>
<td>920</td>
<td>Seminar in Teaching Foreign Languages</td>
<td>3 credits</td>
<td>(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.</td>
</tr>
<tr>
<td>930</td>
<td>Topical Seminar in Research and Theory in Foreign Language Education</td>
<td>3 credits</td>
<td>(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.</td>
</tr>
<tr>
<td>940</td>
<td>Development of Children: Grades Four and Five</td>
<td>3 credits</td>
<td>Prerequisite: Early Childhood P3 teaching license. Course focuses on nature/needs of grade four five adolescents’ development including physical, cognitive-intellectual, moral, psychological and social-emotional. Examination of related issues in home, school, and community contexts.</td>
</tr>
<tr>
<td>950</td>
<td>Fourth Grade Curriculum and Instruction</td>
<td>3 credits</td>
<td>Prerequisite: 640. The language arts, mathematics, science and social studies, arts, and technology content and the knowledge of inquiry and problem-based instruction necessary for fourth grade teachers.</td>
</tr>
<tr>
<td>960</td>
<td>Fifth Grade Curriculum and Instruction</td>
<td>3 credits</td>
<td>Prerequisite: 640. Models an instructional format that integrates math, science, social studies, and technology standards where students learn to create, implement, manage, and evaluate lessons and student-centered learning.</td>
</tr>
<tr>
<td>980</td>
<td>Elementary Science Curriculum and Instruction</td>
<td>3 credits</td>
<td>A critical analysis of contemporary science curriculum and instructional methods for the young learner with particular attention to constructivism and national standards.</td>
</tr>
</tbody>
</table>
560 PRACTICUM IN HEALTH EDUCATION
Prerequisite: permission of instructor. The practicum in Health Education is an on-site participation in a community health organization, agency, or resource.

560 PRACTICUM IN HEALTH EDUCATION
2 credits

560 COUNSELING PROBLEMS RELATED TO LIFE-THREATENING ILLNESS AND DEATH
Prerequisite: 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
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

600 SEMINAR IN COUNSELING
Prerequisite: counseling majors must elect 600 prior to electing 651 and/or within the first 10 credits of 5600 course work. Structured group experience designed to help a student assess selection of counseling as a profession.

610 COUNSELING SKILLS FOR TEACHERS
Prerequisite: 601 or 633 or permission. The study and practice of selected counseling techniques that can be applied to teachers in working with students, parents and colleagues.

620 ISSUES IN SEXUALITY FOR COUNSELORS
A seminar covering, in addition to changing current practice, sexuality, across the lifespan, diversity and sexual orientation, and assessment.

621 COUNSELING YOUTH AT RISK
This course is designed to prepare counselors and other helping professionals to work with at-risk children and adolescents in school and community settings.

622 INTRODUCTION TO PLAY THERAPY
Prerequisites: enrolled in a master’s or doctoral program in counseling or related field, or special endorsement students (i.e., professional counselor). 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
This course is designed to help students learn about marriage and family counseling/therapy and to develop a distinct profession and associated corresponding codes.

631 ELEMENTARY/SECONDARY SCHOOL COUNSELING
Prerequisite: 610; class examination and secondary school counseling practices.

635 COMMUNITY COUNSELING
Overview of community and college counseling services; their evaluation, philosophy, organization and administration.

636 COLLEGE ADMISSION COUNSELING I
Therapeutic and counseling techniques, discussion, and experiential projects students will learn the fundamental skills needed to assist counselors in teh college admission process.

637 COLLEGE ADMISSION COUNSELING II
Prerequisite: 636. Students will continue to enhance their knowledge in guiding students through the college admission process through extensive field work at surrounding college campuses.

640 COUNSELING ADOLESCENTS
Prerequisite: graduate student in counseling or related field. The examination of the physical, 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
Examination of major counseling systems including client-centered, behavioral and existential theories. Philosophical and theoretical dimension stressed.

645 TESTS AND APPRAISAL IN COUNSELING
Prerequisites: 500:640. Study of the nature of tests and appraisal in counseling including reliability, validity, test construction and selection, administration, scoring and, scoring and interpretation of selected measures.

651 MULTICULTURAL COUNSELING
Prerequisites: 643 or permission of instructor. An examination of multicultural counseling theories and methodology of assessment and research necessary to work with culturally diverse people.

647 CAREER DEVELOPMENT AND COUNSELING ACROSS THE LIFE-SPAN
Overview of career development and choice over the life-span. Personal, family, and societal characteristics that affect choice, and implementation are discussed.

648 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN
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 his/her family.

650 FILIAL THERAPY
Prerequisite: 650 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
Prerequisites: 655, 643 (preq or coreq). Corequisites: 669; Study and practice of selected counseling techniques and skills with emphasis on structuring, listening, leading and establishing a counseling relationship.

653 GROUP COUNSELING
Prerequisites: 433 or 710, and 433. Knowledge and understanding of theory, research, and techniques necessary for conducting group counseling sessions. An experimental component is included.

655 MARRIAGE AND FAMILY THERAPY: THEORY AND TECHNIQUES
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
Prerequisites: 631, 651 or permission. Examination of consultation models with focus on process and product.

659 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES
Prerequisites: 631 or 623 or permission. Development of a comprehensive articulated guidance program.

660 COUNSELING CHILDREN
Prerequisite: graduate student in counseling or related field. This course is designed as an entry-level course for counseling professionals, 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
This course will examine several 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 guidelines and strategies for effective education, classroom guidance, deliberate psychological edu-
cation 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 diagnosing and reducing common mental disorders found in the counseling and mental health field.

667 MARITAL THERAPY 3 credits
Prerequisite: 665. 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
Prerequisite: 665. In-depth exploration of systems theory in family therapy. Major assumptions of the systems theory will be examined and the implications for interventions will be explored.

673 PRACTICUM IN COUNSELING I 3 credits
Prerequisites: 623, 645, 646, 851, 653, 665, 667, 669, 656, 646, 699. This course will provide family and marriage counseling students with an intensive supervised clinical experience, which includes live supervision and videotape review of therapy sessions.

685 INTERNSHIP 3 credits
Prerequisite: 675. Must be repeated for a minimum of 6 credit hours over two semesters. May be repeated for a maximum of 12 credit hours. Paid or unpaid supervised clinical experi-
ce taken at least two consecutive semesters immediately following completion of 675.

690 FIELD EXPERIENCE: MASTER’S 3-12 credits
Prerequisites: 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 1-3 credits
May be repeated for a total of nine credits. Prerequisites: permission of advisor and depart-
ment chair. Specific area of investigation determined in accordance with student needs.

702 ADVANCED COUNSELING PRACTICUM 4 credits
Prerequisites: permission of advisor and department chair. Placement in selected settings.

732 SUPERVISION IN COUNSELING PSYCHOLOGY I, II 4 credits each
Prerequisites: doctoral residency or permission. Instruction and experience in supervising grad-
uate student in counseling.

736 INTRODUCTION TO COUNSELING PSYCHOLOGY 2 credits
Prerequisite: graduate standing in the Collaborative Program in Counseling Psychology. Intro-
duction to historical foundations of and recent developments in counseling psychology, with
emphasis on contemporary research literature in the field.

738 THEORIES OF COUNSELING AND PSYCHOTHERAPY 4 credits
Prerequisite: 3750:630 or departmental permission. Major systems of individual psychother-
apy studied within a philosophy of science framework. Freudian, behavioral, Rogerian, cogni-
tive and other. Includes research, contemporary problems and ethics.

763 VOCATIONAL BEHAVIOR 4 credits
Prerequisites: 3750:630 or departmental permission. Theories and research on vocational be-
havior and vocational counseling. Topics include major theories on vocational behavior, empirical
research related to these theories, approaches used in vocational counseling and applied research.

764 PRINCIPLES AND PRACTICE OF INDUCTIVE INTELLIGENCE TESTING 4 credits
Prerequisites: 630 or graduate standing in school psychology, and instructor’s permission. His-
tory, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.

766 PROFESSIONAL, ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY 4 credits
Prerequisite: doctoral residency or permission. Examination of major issues in the field such as
the counselor as a professional and as a person, and issues, problems and trends in counseling.

767 OBJECTIVE PERSONALITY EVALUATION 4 credits
Prerequisites: 3750:400/500, 3750:420/520, and 3750:750 or 5600:645 or per-
misson. Study of the development, administration, and interpretation of objective instruments
for personality assessment (MMPI, CPI, MBTI, 16 PF and selected additional inventories).

769 INTRODUCTION TO COUNSELING I 2 credits
Prerequisites: permission of advisor and department chair. Placement in selected setting
for purpose of acquiring experiences and/or developing skills related to student’s doctoral program.

785 DOCTORAL INTERNSHIP 3 credits
Prerequisite: Successful completion of advanced practicum and Supervision I. Instruction and experience supervising graduate students in counseling.

789 ASSESSMENT METHODS AND TREATMENT ISSUES IN MARRIAGE AND FAMILY THERAPY 3 credits
Prerequisite: 645. Provides advanced counseling students with the knowledge and skills in
assessment methods, techniques and instruments relevant to the practice of marriage and family therapy.

790 MARITAL THERAPY 3 credits
Prerequisite: Successful completion of advanced practicum and Supervision I. Instruction and experience supervising graduate students in counseling.

795 ASSESSMENT METHODS AND TREATMENT ISSUES IN MARRIAGE AND FAMILY THERAPY 3 credits
Prerequisite: 645. Provides advanced counseling students with the knowledge and skills in
assessment methods, techniques and instruments relevant to the practice of marriage and family therapy.

801 OUTCOME RESEARCH IN MARRIAGE AND FAMILY THERAPY 3 credits
Prerequisite: 667; 500:840, 841. This course will provide an in-depth examination of marriage and family therapy outcome research.

COUNSELING CHILDREN 3 credits
Prerequisite: graduate student in counseling or related field. This course is designed as an
entrylevel course for counselors, school counselors, school psychologists, or other profes-
sionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of
childhood disorders.

806 DOCTORAL INTERNSHIP 3 credits
May be repeated for a total of 9 credit hours.) Prerequisite: passing grades on written and oral comprehensive examinations. Supervised experience in clinical settings, teaching, and supervising. A minimum of 60 clock hours must be completed in a minimum of two con-
secutive semesters immediately following passing of comprehensive examinations.

806 COUNSELING PSYCHOLOGY PRACTICUM 4 credits
May be repeated for a total of 12 credits) Advanced counseling psychology students will have supervised training with clients in a variety of settings and will focus on supervised develop-
ment of specialized theoretical applications. Credit/No credit.

807 INDEPENDENT READING AND/OR RESEARCH IN COUNSELING PSYCHOLOGY 1-5 credits
May be repeated. Prerequisite: permission of instructor. Independent readings and/or research in an area of counseling psychology under the direction of a faculty member.

810 FIELD EXPERIENCE: DOCTORAL 2 credits
Prerequisite: Successful completion of advanced practicum. Doctoral candidate status. Placement in selected setting for purpose of acquiring experiences and/or developing skills related to student’s doctoral program.

810 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of advisor and department chair. Specific area of investigation determined in accordance with student needs.

810 DOCTORAL DISSERTATION 1-20 credits
Prerequisites: permission of advisor and dissertation committee chair. The dissertation experience is designed to provide the opportunity for students to apply their knowledge and skills in their field of specialization.

SPECIAL EDUCATION 5610:

540 INDIVIDUALS WITH EXCEPTIONALITIES: EDUCATIONAL AND SOCIETAL ISSUES 3 credits
Prerequisite: Admission to College of Education Teacher Preparation Program or permission of instructor. A survey course covering the identification, developmental characteristics, and intervention strategies for exceptional children and youth across education and community settings (1 field hour).

544 DEVELOPMENTAL CHARACTERS OF INTELLIGENTLY GIFTED INDIVIDUALS 3 credits
Prerequisite: 540. Survey of etiology, diagnosis, classification and developmental character-
istics of intellectually gifted individuals.

548 INDIVIDUALS WITH MILD/MODERATE EDUCATIONAL NEEDS: CHARACTERISTICS AND IMPLICATIONS 3 credits
Survey of the etiology, developmental characteristics of and intervention strategies for individuals with mild/moderate educational needs.

548 INDIVIDUALS WITH MODERATE/INTENSIVE EDUCATIONAL NEEDS: CHARACTERISTICS AND IMPLICATIONS 4 credits
Prerequisite: 540. Survey of the etiology, identification, classification, and developmental char-
acteristics of individuals with moderate/intensive educational needs.

550 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD 3 credits
Prerequisite: 540. Developmental patterns of young children with disabilities and develop-
mentally/exceptionality appropriate practices with respect to programming and adaptations (1 field hour).

551 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE I 3 credits
Prerequisites: 540 or 547. Educational implications regarding assessment, teaching strategies, and adaptive materials, necessary to meet the needs of school age children with mild/moderate educational needs (20 field hours).

552 SPECIAL EDUCATION PROGRAMMING: SECONDARY/TRANSITION 3 credits
Study of diagnostic prescriptive service delivery systems designed to accommodate devel-
opmental patterns of secondary school students with disabilities.

553 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE I 4 credits
Development of the programming strategies including assessment, interdisciplinary collaboration, family involvement, IFSP/IEP/IEP development, instructional practices based upon legal/ethical principles for individuals with moderate/intensive educational needs (20 field hours).

554 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE II 4 credits
Advanced program for providing educational planning and intervention for individuals with moderate to intensive educational needs. Focus is on developing a comprehensive education program which will facilitate optimum functioning and independence (20 field hours).

555 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE II 3 credits
Special educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age children with mild/moderate educational needs (20 field hours).

556 COLLABORATION AND CONSULTATION IN SCHOOLS AND COMMUNITY 3 credits
Prerequisites: 540 and 543 or 549, or permission of instructor. Provides professional edu-
cation/intervention specialists with skills in collaboration and consultation for working with par-
ticipants of exceptional individuals and other professionals within school/community settings.
560 FAMILY DYNAMICS AND COMMUNICATION IN THE EDUCATIONAL PROCESS 3 credits
A study of family theory and structure along with beginning techniques for working with families of students with exceptionalities, in educational and community settings.

561 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD MODERATE/INTENSIVE 3 credits
Prerequisites: 540 and 546. Developmental patterns of young children with moderate/intensive needs ages 3 and developmentally appropriate practices in programming and adaptations (20 field hours).

563 ASSESSMENT IN SPECIAL EDUCATION 3 credits
Prepares the student to select and interpret formal and informal assessment procedures and use resulting data in planning educational programs for exceptional individuals.

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, with an emphasis on disability identification in early childhood.

567 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.

568 ADVANCED BEHAVIOR MANAGEMENT 3 credits
Prerequisites: 567. Advanced techniques for remediating problematic behavior, establishing effective repertoires and evaluating research relevant to classroom management will be covered. Behavioral theory will be stressed.

570 CLINICAL PRACTICUM IN SPECIAL EDUCATION 3 credits
Provides a pre-student teaching experience for students in the areas of assessment, program planning, instructional development, classroom management, adaptations, and collaboration with parents and other educational professionals.

579 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION 1-2 credits
May be repeated for a total of four credits. Topic study with a varied array of disciplinary input. Staffing will be invited members of allied and contributing professions active in management of exceptional children.

601 SEMINAR SPECIAL EDUCATION CURRICULUM PLANNING 3 credits
Prepares for certification in an area of special education. Study of curriculum planning techniques unique to special education classes and services. Appropriate curriculum objectives for selected methods of instruction, as well as effective organizational programs examined.

602 SUPERVISION OF INSTRUCTION 3 credits
Study of administration supervisory practices unique to special education classes and services.

604 COLLABORATION AND CONSULTATION SKILLS FOR SPECIAL EDUCATORS 3 credits
Advanced consideration of the roles and responsibilities of parents, professionals and individuals with disabilities in the development and implementation of educational interventions and related issues.

605 INCLUSION MODELS AND STRATEGIES 3 credits (3 field hours)
History, theory, philosophy, legislative mandates, models, strategies, curriculum modifications, methods/materials adaptations which support the inclusion of students with disabilities. Emphasis on collaboration and teamwork. (3 field hours)

606 RESEARCH APPLICATIONS IN SPECIAL EDUCATION 3 credits
Prerequisites: admission program in special education and 5000:640. An examination of quantitative and qualitative research methodology and its application to the field of special education. Applied research is an essential component of the course.

607 CHARACTERISTICS AND NEEDS OF INDIVIDUALS DEMONSTRATING PERVERSIVE DEVELOPMENTAL DISORDERS 3 credits
This course provides a survey of the etiology, diagnoses, characteristics, and needs of individuals with pervasive developmental disorders.

609 PROGRAMMING ISSUES FOR INDIVIDUALS WITH PERVERSIVE DEVELOPMENTAL DISORDERS 3 credits
This course provides the educator with a comprehensive examination of the educational practices and intervention strategies necessary when providing interventions for individuals demonstrating pervasive developmental disorder.

610 CHARACTERISTICS AND NEEDS OF INDIVIDUALS WITH BEHAVIORAL AND EMOTIONAL DISORDERS 3 credits
This course provides a survey of the etiology, diagnoses, classification, and developmental (birth through adult) characteristics of individuals in need of behavioral support.

611 SEMINAR: LEGAL ISSUES IN SPECIAL EDUCATION 3 credits
Prerequisites: admission to graduate program in special education and 5170:720 or permission of instructor. Consideration of pertinent legal issues in special education with emphasis on field-based concerns of a practicing school psychologist.

612 SPECIAL EDUCATIONAL PROGRAMMING: EARLY CHILDHOOD MODERATE/INTENSIVE 3 credits
Taken concurrently with School-Based Externship in Audiology or Speech-Language Pathology. Review and discussion of issues raised during externship experience.

618 SCHOOLBASED EXTERNALS: SCHOOL AUDITORY 6 credits
Directed professional experience under supervision of a licensed and certified audiologist and a University supervisor.

619 SCHOOLBASED EXTERNALS: SPEECH LANGUAGE PATHOLOGY 6 credits
Directed professional experience under supervision of a licensed and certified speech-language pathologist and a University supervisor.

624 RESEARCH PROJECT IN SPECIAL AREA ( SCHOLARLY PAPER) 3 credits
An in-depth study of an identified topic in a scholarly paper.

625 FIELD EXPERIENCE: MASTER’S 1-4 credits
May be repeated for a total of eight credits. Designed to provide on-the-job experience in a special education program on an individual basis.

627 INDEPENDENT STUDY 1-3 credits
May be repeated for a total of nine credits. Specific area of investigation determined in accordance with student’s needs.

628 MASTER’S PROJECT 2-4 credits
In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in special education.

629 MASTER’S THESIS 4-6 credits
Thorough study and analysis in depth of an educational problem, field projects in special areas; synthesis of existing knowledge in relationship to a specific topic.

660 SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST 3 credits
Prerequisite: permission of instructor. Seminar on role and function of school psychologist. The course, tailored to meet individual needs of trainees, is a consideration of professional standards of school psychology practice.

661 COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE ENVIRONMENTAL PLANNING 3 credits
Prerequisite: permission of instructor. Consideration of cognitive development theories and their application for educational programming.

662 BEHAVIORAL ASSESSMENT 3 credits
Prerequisite: permission of instructor. Overview of behavioral theory and its application focusing upon the role of the school psychologist as an agent of change behavior.

663 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.

664 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.

665 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).

667, 669 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.

670 FIELD SEMINAR I: CURRENT PROFESSIONAL TOPICS/ISSUES IN SCHOOL PSYCHOLOGY 3 credits
Prerequisite: permission of instructor. Consideration of pertinent topics/issues in practice of school psychology with emphasis on field-based concerns of a practicing school psychologist.

671 FIELD SEMINAR II: LOW INCIDENCE/RELATED IRRITATIONS 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.

674 RESEARCH PROJECT IN SPECIAL AREAS 1-3 credits
Prerequisite: permission of advisor. Study, analysis and reporting of school psychology problem.

675 FIELD EXPERIENCE: MASTER’S 1-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in school setting.

676 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 collaboration.

678 MASTER’S PROBLEM 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 a problem in school psychology.

679 MASTER’S THESIS 4-6 credits
Prerequisite: permission of instructor. Thorough study, analysis and reporting in depth of an educational problem; field projects in special areas; synthesis of existing knowledge in relationship to specific topic.

680 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES 1-3 credits
Individual work under staff guidance on curricular problems; utilization of community resources; planning of curriculum units.

Business Administration

ACCOUNTANCY 6200:

520 ADVANCED ACCOUNTING 2 credits
Prerequisites: 622 or equivalent. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, nonprofit entities and consolidated statements.

530 TAXATION I 3 credits
Prerequisite: 621 or equivalent. Federal tax law related to individuals. Mastery of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.

531 TAXATION II 3 credits
Prerequisite: 620 or permission. Federal income tax law related to partnerships, corporations, trusts and estates; also includes an overview of federal estate and gift tax laws.

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.

541 INFORMATION SYSTEMS AUDIT AND CONTROL 3 credits
Prerequisites: 540 or permission of instructor. Learn the fundamental concepts and practices of information systems audit control. Use control objectives and standards by information systems control, audit and security organizations.
650 ESTATE PLANNING
Prerequisite: 603. Considers entire process of planning the estate with due regard for disposition of property, tax minimization, inventory requirements and administrative costs.

651 INTERNATIONAL TAXATION
Prerequisite: 631 or special permission. 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
Prerequisite: Admission to Master of Tax program or special permission. Analysis of tax implications of tax-exempt organizations, including considerations of their tax-exempt status.

654 INDEPENDENT STUDY IN TAXATION
1-3 credits
Prerequisite: permission of instructor. Study of special topic or limited number of tax provisions not otherwise offered in curriculum. (May be repeated for a total of six credits.)

655 ADVANCED INFORMATION SYSTEMS
Prerequisites: 603 or 610. Advanced study of information systems theory, elements, principles, design and implementation. Practical data processing and network control flow of information.

658 ENTERPRISE RISK ASSESSMENT AND ASSURANCE
3 credits
Prerequisite: 640 or special permission. An examination of the risks, controls, and assurance services in contemporary organizations.

659 ASSURANCE SERVICES AND DATA MINING
3 credits
Prerequisite: 603 or special permission. Application of data mining and quantitative techniques to fraud risk assessment, error detection, financial distress, going concern, and information risk assessment.

660 ACCOUNTING AND ASSURANCE PROJECT
3 credits
Prerequisite: 640 and instructor approval. Comprehensive accounting and assurance project and a project management module completed in the final semester of the MSA program.

662 5 CORP TAXATION
3 credits
Prerequisite: 603 or special permission. Course involves an in-depth study of Subchapter S of the Internal Revenue Code.

663 CORPORATE PERFORMANCE EVALUATION AND CONTROL SYSTEMS
3 credits
Prerequisite: 603. 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.

664 INTERNATIONAL ACCOUNTING
Prerequisite: 603. Examination of the fundamental principles of international taxation and practice from an international perspective with emphasis on multinational investment, business and auditing activities and reporting problems.

665 SELECTED TOPICS IN TAXATION
3 credits
Prerequisite: 631 or special permission. Provides study in current issues in taxation that are not covered in current courses.

666 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.

667 INDEPENDENT STUDY IN ACCOUNTING
1-3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in accounting on an independent basis.

FINANCE
6400:

538 INTERNATIONAL BANKING
3 credits
Prerequisite: 602 or permission. Examination of recent trends in the expansion of international banking 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
(Not open to students with six credits of undergraduate business law.) Advanced legal analysis of contracts, UCC, debtor-creditor relationships, business organizations, property, and government regulation.

631 FINANCIAL MARKETS AND INSTITUTIONS
3 credits
Prerequisite: 602 or equivalent. Study of the economic and market forces that influence security prices. Techniques of analysis used in evaluating limited income and equity securities.

650 TECHNOLOGIES OF FINANCIAL SECURITIES
3 credits
Prerequisites: 5250.600 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.

653 GOVERNMENT AND BUSINESS
3 credits
Public policy with regard to business institutions and issues are considered from an economic, legal, ethical, political frameworks.

654 STRATEGIC FINANCIAL DECISION MAKING
3 credits
Prerequisite: 602. Examines the role of financial decision makers as strategic consultants to the management of working capital and permanent assets, return 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 a concentration on emerging law and policy.

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 international investments and risks in a rapidly changing global economy.
### MANAGEMENT 6500:

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<thead>
<tr>
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<th>Credits</th>
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<td>502</td>
<td>MANAGEMENT OF DATA NETWORKS</td>
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<td>511</td>
<td>DATA COLLECTION AND MANAGEMENT PROJECT</td>
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<td>567</td>
<td>SUPPLY CHAIN SOURCING</td>
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<td>580</td>
<td>INTRODUCTION TO HEALTH-CARE MANAGEMENT</td>
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<td>582</td>
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<td>585</td>
<td>SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION</td>
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<td>600</td>
<td>MANAGEMENT AND ORGANIZATIONAL BEHAVIOR</td>
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<td>SELECTED TOPICS IN MANAGEMENT</td>
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<td>690</td>
<td>BUSINESS STRATEGY AND POLICY: DOMESTIC AND INTERNATIONAL</td>
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### MARKETING 6600:

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<td>600</td>
<td>MARKETING CONCEPTS</td>
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Graduate Courses

Creative & Professional Arts

ART

7100:

501 SPECIAL TOPICS IN HISTORY OF ART
3 credits
Prerequisite: Permission. Lecture course focusing on a particular movement, period, artist, or medium. (May be repeated when a different subject or level of investigation is selected.)

502 MUSEOLOGY
3 credits
Lecture course dealing with museum science, including museum history, staff structures, art 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
May be repeated for credit when a different subject is indicated. Prerequisite: Permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem.

507 METHODS OF ART HISTORY
3 credits
Prerequisite: Permission of instructor. This course explores the history of the discipline and the permissions it has undergone since its establishment in the early years of the sixteenth century.

510 METHODS OF TEACHING ELEMENTARY ART
3 credits
Prerequisite: admission to Teacher Education Program Art P-12. A lecture course presenting the necessary skills and knowledge to successfully implement plan, instruct, and assess a diverse, art-based curriculum for the elementary school. No credit as elective courses for art majors.

511 METHODS OF TEACHING SECONDARY ART
3 credits
Prerequisite: admission to Teacher Education Program Art P-12. A lecture course providing the knowledge and skills 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 COLLOQUIUM
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.

513 SURVEY OF ASIAN ART
3 credits
This course introduces the student to historical, cultural, political, and religious aspects of civilization that influenced the aesthetics of Asian art.

518 MULTIPLES AND MULTICLIVITY
3 credits
Prerequisite: Permission of instructor. Advanced printmaking class recommended for studio majors working with multiples, variability, and production requiring students to define and complete their own projects.

519 SPECIAL TOPICS IN PRINT
3 credits
Prerequisite: Permission of instructor. Investigation of specialized printmaking media like Photogravure, Digital Printing, and Book Arts among others. May be offered in conjunction with University sponsored residencies or travel.

545 ADVANCED CERAMICS
3 credits
Prerequisite: Permission. Studio course with emphasis on advanced ceramic techniques.

589 SPECIAL TOPICS IN STUDIO ART
3 credits
May be repeated for 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.

590 WORKSHOP IN ART
1-4 credits
May be repeated for credit when a different subject or level of investigation is indicated to maximum of 12 credits.) Prerequisite: advanced standing in art or permission of instructor. Group investigation of a particular phase of art not offered by other courses in art history.

593 ADVANCED SEMINAR IN ART EDUCATION
3 credits
Prerequisite: Acceptance to the MS program in Secondary Education with Visual Art License. This lecture course is an advanced seminar in art education introducing students to historical, contemporary, philosophical issues in art education. Contemporary topics and practices in art education are addressed.

594 SPECIAL TOPICS: ART EDUCATION
1-3 credits
(May be repeated for one credit when a different subject or level of investigation is indicated) Group investigation of topics of interest to the art education student and not covered elsewhere in the curriculum.

597 INDEPENDENT STUDIES
1-3 credits
May be repeated for 9 credits) Prerequisites: for art majors: completion of at least one advanced course in the major with a grade of A or A- and permission of instructor. Prerequisite: for non-art majors: permission of instructor. Investigation in depth of aesthetic and technical problems within a studio selected area of specialization. Student must present in writing a proposed study plan and time schedule for instructor approval.

598 SPECIAL PROBLEMS IN HISTORY OF ART
1-3 credits
May be repeated for credit when a different subject or level of investigation is indicated) Prerequisites: 14 credits in art history and permission of instructor. Individual research in art history centered around limited topic, such as specific time period, history of specific techniques, a single artist or movement in art history. No more than 10 credits will be counted toward major.

MUSIC

7500:

525 MUSIC TEACHING METHODOLOGIES FOR GRADUATE STUDENTS
2 credits
Basic teaching techniques related to the teaching of undergraduate music courses, including preparation of syllabi, methods of evaluation, and instruction on class preparation and presentation.

526 GRADUATE MUSIC THEORY REVIEW
2 credits
Prerequisite: Undergraduate music theory equivalent to four semesters. Review of basic music theory concepts. Coverage includes the chromatic harmonic vocabulary of the 18th, 19th, and 20th centuries.

527 GRADUATE MUSIC HISTORY REVIEW
2 credits
Prerequisite: Undergraduate music history equivalent to four semesters of music history or literature study. Review of basic music history for graduate students. Coverage extends from antiquity to the present. Both reading and listening assignments will be required.

532 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS
2 credits
To prepare undergraduate and graduate percussion students in techniques of percussion education. Emphasis on research, literature, performance, and techniques from elementary through secondary levels.

551 INTRODUCTION TO MUSICOLOGY
2 credits
Prerequisite: 392. Comparative musicology; acoustics; psychology and physiology of music; aesthetics; theory of music history; historical musicology.

553 MUSIC SOFTWARE SURVEY AND USE
2 credits
Prerequisite: 122 or permission of instructor. A survey and evaluation of available software in the various forms of musical instruction. Students will design a course suitable for submission to the Teacher Education Program.

555 ADVANCED CONDUCTING: INSTRUMENTAL
2 credits
(30 clinical hours) Prerequisites: 361 and 442 or permission. Baton techniques and procedures relating to practice, reading and preparation of scores, organization of ensembles, programming, conducting large instrumental ensembles. One hour lab required.

556 ADVANCED CONDUCTION: CHORAL
2 credits
Prerequisite: 361 or equivalent. Conductation techniques to the choral ensemble, including leadership, ear detection, tonal development, stylistic accuracy and analysis. One hour lab required.

563 REPERTOIRE AND PEDAGOGY: STRING INSTRUMENTS
3 credits
Prerequisite: permission of instructor. Study in depth of the four bowed string instruments, their teaching and close relationship. Despite obvious difference in physical application of cells and bowing, sound production and coloring are closely related. Application of the instruments to solo, chamber and orchestral playing.

615 DATABASE MARKETING
3 credits
Prerequisite: 600. This course examines the information-driven process that is managed by database technology in and effort to develop, design and custom design marketing plans and strategies. Database marketing focuses on better decision making relative to customer selections and customer relationships.

620 STRATEGIC MARKETING MANAGEMENT
3 credits
Prerequisite: 600 or equivalent. Managerial assessments of opportunities, threats are explored as are the development and management of appropriate strategic marketing plans and their tactical implementation.

630 CUSTOMER RELATIONSHIP MANAGEMENT
3 credits
Prerequisite: 600 or permission of instructor. Investigation of the marketing concept and practice in marketing strategy and tactics. Investigations include: vendor-dealer relations, website traffic design, database applications, and web apprausal metrics.

640 BUSINESS RESEARCH METHODS
3 credits
Prerequisite: 6500:620. Covers the scientific methods as well as the gathering and analysis of information to identify opportunities and solve problems within a business environment.

645 INNOVATIVE MARKETING STRATEGIES
3 credits
Prerequisites: 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.

655 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.

670 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.

697 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.

INTERNATIONAL BUSINESS

6800:

605 INTERNATIONAL BUSINESS ENVIRONMENTS
3 credits
Prerequisites: all MBA foundation courses. This course is intended to develop an understanding of the global business environment and the integrated functions of the multinational corporation.

630 INTERNATIONAL MARKETING POLICIES
3 credits
Explores the problems of formulating and implementing marketing strategies and tactics within the complex and changing multinational organizations and international markets. A planning framework is emphasized.

685 MULTINATIONAL CORPORATIONS
3 credits
A course designed to develop an understanding of global businesses, their functions, structures, and strategic operations.

690 SEMINAR IN INTERNATIONAL BUSINESS
3 credits
A course covering major issues in international business.

697 INDEPENDENT STUDY FOR INTERNATIONAL BUSINESS
1-3 credits
(May be repeated for a total of six credits) Prerequisites: Graduate standing and permission of instructor. Focus on special topics of study and research in international business on an independent basis.

502 MUSEOLOGY
3 credits
Lecture course dealing with museum science, including museum history, staff structures, art 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
May be repeated for credit when a different subject is indicated. Prerequisite: Permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem.
### MUSICAL ORGANIZATIONS

#### Akron Symphony Orchestra
- **Description:** Open to University and community members by audition. Prospective members should contact School of Music two weeks before semester begins. Performs with Akron Symphony Orchestra.
- **Credit:** 1 credit

#### University Singers
- **Description:** Membership by audition. Highly select mixed choir. Performs classical literature from all periods and modern editions and recordings evaluated.
- **Credit:** 1 credit

#### University Sinfonietta
- **Description:** Organization devoted to study of orchestral literature. Full-length concerts as well as special University appearances. Major conducted ensemble.
- **Credit:** 1 credit

#### Wind Ensemble I
- **Description:** Open to University and community members by audition. Prospective members should contact School of Music two weeks before semester begins. Performs with Akron Symphony Orchestra.
- **Credit:** 1 credit

#### Wind Ensemble II
- **Description:** Open to University and community members by audition. Prospective members should contact School of Music two weeks before semester begins. Performs with Akron Symphony Orchestra.
- **Credit:** 1 credit

#### Woodwind Ensemble
- **Description:** Open to University and community members by audition. Performs literature from classical to popular. “Major conducted ensemble” for vocal majors.
- **Credit:** 1 credit

#### Vocal Chamber Ensemble
- **Description:** Membership open to those enrolled in applied voice study. Coaching and rehearsal of solo and ensemble literature for voices from operatic, oratorio and lieder repertoires.
- **Credit:** 1 credit

#### Brass Ensemble
- **Description:** Membership by audition. Study and performance of brass ensemble from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.
- **Credit:** 1 credit

#### String Ensemble
- **Description:** Membership by audition. In-depth study and performance of chamber music literature with special emphasis on string quintet and piano trio.
- **Credit:** 1 credit

#### Opera/Lyrical Theater Workshop
- **Description:** Membership by audition. Musical and dramatic group study of excerpts from operatic repertoire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.
- **Credit:** 1 credit

#### Percussion Ensemble
- **Description:** Membership by audition. Study and performance of literature for various percussion groups; develops skill in ensemble performance.
- **Credit:** 1 credit

#### Woodwind Ensemble
- **Description:** Membership by audition. Study and performance of woodwind literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.
- **Credit:** 1 credit

#### Keyboard Ensemble
- **Description:** In-depth study of ensemble playing. Required of all music majors. Forum for student and faculty providing lectures, recitals, and opportunity to practice skills for successful music performance.
- **Credit:** 1 credit

#### Jazz Ensemble
- **Description:** Membership by audition. Provides experience in jazz ensemble performance. A student is assumed to have knowledge of rudiments of music and some experience in jazz ensemble performance.
- **Credit:** 1 credit

#### Small Ensemble-Mixed
- **Description:** Chamber Ensemble, Baroque Ensemble and Contemporary Music Ensemble. Each is a group of diverse instruments which rehearse and performs a selected body of music.
- **Credit:** 1 credit

#### Concert Choir
- **Description:** Membership by audition. Highly select mixed choir. Performs classical literature from all periods. Performs in regional, and tour performances. “Major conducted ensemble” for vocal majors.
- **Credit:** 1 credit

#### University Singers
- **Description:** Membership by audition. Mixed ensemble devoted to performance of a wide variety of choral literature from classical to popular. “Major conducted ensemble” for vocal majors.
- **Credit:** 1 credit

#### Concert Band
- **Description:** Membership by audition. Performs the finest in concert band literature available for concert performance. Open to all students of the University.
- **Credit:** 1 credit

#### Marching Band
- **Description:** This organization is for its high energy performances a University football games. Enrollment is open to all members of the University student body.
- **Credit:** 1 credit

#### Blue and Gold Brass Band
- **Description:** The official band for Akron home basketball games. Membership is by audition.
- **Credit:** 1 credit
The University Band is open to all members of the University community and performs excellent standard band literature. All music majors are required to complete a placement audition each fall semester. Major conducted ensemble.

The official band for Akron home ladies basketball games. Membership is by audition.

The University of Akron Summer Concert Band is open to all wind and percussion musicians and performs the finest in band literature.

APPLIED MUSIC 7520:

521-569 Applied Music for Music Majors 2 or 4 credits each

The following courses are intended for a student majoring in one of the programs in the Department of Music. Courses levels correspond approximately to class standing (900 for freshmen, 200 for sophomore, etc.) A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.

521 Percussion
522 Classical Guitar
523 Harp
524 Voice
525 Piano
526 Organ
527 Violin
528 Viola
529 Cello
530 String Bass
531 Trumpet or Cornet
532 French Horn
533 Trombone
534 Baritone
535 Tuba
536 Flute or Piccolo
537 Oboe or English Horn
538 Clarinet or Bass Clarinet
539 Bassoon or Contrabassoon
540 Saxophone
541 Harpsichord
542 Private Lessons in Music Composition 2-4 credits each

May be repeated. Prerequisites: 7600.252 and permission of instructor. 7600.452 recommended. Private instruction in composition. Primarily for student whose major is theory-composition.

621-661 Graduate Study in Applied Music 2 or 4 credits each

May be repeated. Prerequisites: undergraduate degree in music, graduate standing and/or permission of instructor determined through audition.

621 Percussion
622 Classical Guitar
623 Harp
624 Voice
625 Piano
626 Organ
627 Violin
628 Viola
629 Cello
630 String Bass
631 Trumpet or Cornet
632 French Horn
633 Trombone
634 Baritone
635 Tuba
636 Flute or Piccolo
637 Oboe or English Horn
638 Clarinet or Bass Clarinet
639 Bassoon or Contrabassoon
640 Saxophone
641 Harpsichord
642 Applied Composition
661 Jazz Percussion
662 Jazz Guitar 2-4 credits each

May be repeated. Prerequisite: undergraduate degree with a major in music. Private instruction in composition offered primarily for a student majoring in composition. Another student may be approved by composition faculty.

663 Jazz Electric Bass
664 Jazz Piano
665 Jazz Trumpet
666 Jazz Trombone

667 Jazz Saxophone
668 Jazz Composition
669 Jazz Vocal Styles

COMMUNICATION 7600:

500 History of Journalism in America 3 credits

A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.

506 Contemporary Public Relations 3 credits

Study and practical application of communication concepts, theories and skills relevant to public relations programs in businesses and nonprofit organizations.

508 Women, Minorities and News 3 credits

Study of images of women and minorities in U.S. news, along with the power women and minorities have as decision-makers in the news industry.

516 New Media Writing 3 credits

Prerequisite: Permission. This class will look at how today’s professionals practice online publishing. Students will work on writing and reporting skills need in New Media.

517 New Media Production 3 credits

Prerequisite: 516 or permission. Covers practical application of software to create online multimedia documents and explores design ideas for New Media content.

520 Magazine Writing 3 credits

An advanced writing class designed to develop the specialized reporting, researching and writing skills needed in consumer and specialized business magazines today.

525 Commercial Electronic Publishing 3 credits

This advanced class allows an in-depth investigation of the business and production principles of electronic publishing of magazines.

535 Communication in Organizations 3 credits

Overview of theories and approaches for understanding communication flows and practices in organizations, including interdepartmental, networks, superior-subordinate, formal and informal communication.

536 Analyzing Organizational Communication 3 credits

Prerequisite: 535 or permission. Methodology for in-depth analysis and application of communication in organizations; team building, conflict management, communication flow. Individual and group projects; simulations.

537 Training Methods in Communication 3 credits

Principles and concepts in the design and delivery of communication training programs; integration of theory and methodology; presentation skills; matching methods and learner needs.

538 Health Communication 3 credits

This course presents an overview of health communication theory and research issues in interpersonal, small group, organizational, public relations, and mass media contexts.

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 decision-makers as 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

Survey and critical analysis of major speakers, speeches and speech movements in American history. Examines how style and content of American speaking influenced events and reflected their times.

559 Leadership and Communication 3 credits

Theories of leadership and communication across public, organizational, small group, interpersonal, and political 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 3 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 3 credits

Students explore the relationship between politicians, citizens, and media. Topics include media coverage, campaign technologies, advertising, debates, engagement, rhetoric, and attitudes. Theories and methodologies analyzed.

581 Film as Art: An Introduction to the Film Forum 3 credits

A study of the role and function of Cinematography, Editing, Sound, and Mise-en-scene as they shape the meaning of the film within the context of the traditional/non-traditional narratives and the documentary structure.

590 Communication Workshop 1-3 credits

May be retaken for a total of six credits. Group study or group projects investigating a particular phase of media not covered by other courses in curriculum.

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: 600. The course covers paradigms underlying qualitative inquiry, major methods of inquiry, and techniques utilized in the communication discipline. The course fosters students’ ability to conduct qualitative 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 dimensions of field of communication: information analysis, social interaction and semantic analysis.
625 THEORIES OF MASS COMMUNICATION 3 credits
Prerequisite: 600 or permission of instructor. A review of theories of mass media and studies exploring the effects of media.

645 INTERCULTURAL COMMUNICATION THEORY 3 credits
Analysis of the impact on the communication process of cultural difference between communication and mass media studies.

670 COMMUNICATION CRITICISM 3 credits
Introduces the basic elements, approaches and types of critical discourse as it is relevant to communication and mass media studies.

680 GRADUATE COMMUNICATION INTERNSHIP 1-6 credits
(May be repeated for a total of six credits.) Prerequisites: must have attained the category of full admission and be in good standing in the School’s graduate program; must receive permission and approval of internship placement and research proposal. Provides communication graduate students with opportunity to obtain experience and to apply knowledge of academic concepts in a supervised work setting in the communication field.

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 a total of six credits.) Prerequisite: 7800:600 and approval of prospectus one term prior to undertaking the project. Performance of research on problems found in mass media-communication.

698 MASTER’S PROJECT/PRODUCTION 1-6 credits
(May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

699 MASTER’S THESIS 1-6 credits
(May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

THEATRE 7800:

555 CREATING PERFORMANCE 3 credits
(May be repeated for a total of six credits.) This course introduces devising processes, improvisation, ensemble work, and physical theatre techniques appropriate to the preparation of practical performance projects from sources other than a conventional play.

567 CONTEMPORARY THEATRE STYLES 3 credits
A detailed examination of representative plays of the contemporary theatre.

572 METHODS OF TEACHING ELEMENTARY THEATRE ARTS 3 credits
Prerequisite: Graduate status. Course provides skills, knowledge, and experience essential to teaching effective and creative theatre arts in elementary school through current theories, methods, and materials.

573 METHODS OF TEACHING SECONDARY THEATRE ARTS 3 credits
Prerequisite: Graduate status. This course presents skills, knowledge, and experience essential to teaching innovative and creative theatre arts in the secondary school through current theories, methods, and materials.

576 ACTING FOR THE MUSICAL THEATRE 3 credits
Prerequisite: permission. A scene study course in analyzing and performing roles in American musical. Accompanied provided.

590 WORKSHOP IN THEATRE ARTS 1-2 credits
(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 listed 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 the context of the arts disciplines.

614 PROBLEMS IN DIRECTING 3 credits
Advanced directing course with special emphasis on staging of complex plays from all periods of dramatic literature.

615 SEMINAR IN DRAMATIC LITERATURE 3 credits
Representative Western stage play (non-American) are examined in theatrical, historical, and critical/theoretical contexts.

646 GRADUATE ACTING: TECHNIQUES 3 credits
Advanced study of basic acting techniques, especially Stanislavski, through analysis and performance. Voice/Movement Lab required.

648 GRADUATE ACTING: PROBLEMS 3 credits
Study of problems confronting the advanced actor in various modern styles of performance Voice/Movement Lab required.

658 HISTORY OF THEATRE 3 credits
Theatre history from the Greeks to the present with emphasis on physical theatre, conventions, and theatre architecture of each period.

659 STAGE LIGHTING DESIGN AND TECHNOLOGY 3 credits
Study of the art and technique of stage lighting design, including drafting of lighting plots, function of lighting instruments and of intensity control.

660 ADVANCED TECHNICAL THEATRE 3 credits
Processes including multi-set productions, revolve and their rigging, techniques in simple hydraulics, pneumatics and load capacities, and properties and techniques in multi-media.

662 SEMINAR IN SCENE DESIGN 3 credits
Prerequisite: 660 or undergraduate scene design course or permission of instructor. Study of problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces, and new scenicographic materials.

665 AUDIENCE DEVELOPMENT 3 credits
Developing audiences for the Arts through Arts marketing techniques, including season and single ticket sales, promotional strategies, mediapublic relations, market research, and utilization of theatre lighting.

666 PRINCIPLES OF ARTS ADMINISTRATION 3 credits
Principles and practices in non-profit arts management, including organizational structure, function of boards, personnel and volunteer management, and public policy for the arts.

682 FUND RAISING AND GRANTSMANSHIP IN THE ARTS 3 credits
Techniques and execution of a development campaign for individuals, corporations, foundations and state grants, and endowment, including research and proposal writing.

690 GRADUATE RESEARCH/READINGS 1-3 credits
(May be repeated for a total of nine credits) Prerequisite: permission. Individual research or independent readings under supervision of member of theatre graduate faculty.

691 ARTS ADMINISTRATION PRACTICES AND POLICIES 3 credits
Financial management of the arts, facilities management, presenting performances, touring, and unique management problems in non-profit theatre companies, dance companies, orchestras, and museums.

692 LEGAL ASPECTS OF ARTS ADMINISTRATORS 3 credits
Legal responsibilities and liabilities of an arts organization, contracts, copyright law, insurance, tax-exemption, artists’ rights, personnel law, and labor law.

698 INTERNSHIP 3 credits
Prerequisite: permission. Faculty supervised work experience in which student participates in theatre management, performance or technical situation with a selected cultural organization.

699 MASTERS THESIS 3 credits
Prerequisite: permission of graduate coordinator of theatre arts program. Research related to the completion of the master’s thesis.

THEATRE ORGANIZATIONS 7810:

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.

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.

DANCE PERFORMANCE 7920:

590 WORKSHOP IN DANCE 1-2 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.

Health Sciences & Human Services

FAMILY AND CONSUMER SCIENCES 7400:

500 NUTRITION COMMUNICATION AND EDUCATION SKILLS 4 credits
Prerequisite: Permission of instructor. Study of communication and education skills essential to dietetics practice; interpersonal communication; interviewing/nutrition counseling; education techniques, media, and current technology.

501 AMERICAN FAMILIES IN POVERTY 4 credits
Overview of the issues, trends, and social policies affecting American families living in poverty. Online section available.

502 ADVANCED FIBER ARTS 3 credits
Prerequisite: Permission of instructor. An advanced course that builds on the skills learned in the prerequisite, with the intention of reaching a caliber suitable for one of the many professions in this field, including business aspects such as market analysis and product development.

503 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.

504 MIDDLE CHILDHOOD AND ADOLESCENCE 3 credits
Prerequisite: 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.

506 FAMILY FINANCIAL MANAGEMENT 3 credits
Analysis of the family as a financial unit including financial problems and their resolution, decision-making patterns and financial practices behavior. Cases, exercises, problems and computer analysis.

507 FCS OCCUPATIONAL EMPLOYMENT EXPERIENCE 4 credits
Provides student with knowledge of current business and industrial practices at level minimally compatible with employment expectations of graduates of vocational job training programs in Family and Consumer Sciences.

513 FOOD SYSTEMS MANAGEMENT II 3 credits
Prerequisite: Acceptance into the graduate program or permission of instructor. Advanced concepts in management of dietary service systems relating to achievement of nutritional care goals.

514 FOOD SYSTEMS MANAGEMENT II CLINICAL 3 credits
Prerequisite: Acceptance CP program. Corequisite: 513. This clinical increases experience and serves to present in depth the role and responsibility of the Management RFD/ Service Director. Professional competencies are learned, leading to employment as an entry level dietitian.

518 HISTORY OF INTERIOR DESIGN I 4 credits
The study of furnishings, interiors, and architecture from antiquity through the eighteenth century, with emphasis on the socio-cultural influences shaping their development.

519 HISTORY OF INTERIOR DESIGN II 4 credits
The study of nineteenth and twentieth century furnishings and interiors, with emphasis on the socio-cultural influences shaping their development.

522 TEXTILES FOR INTERIORS 3 credits
Prerequisite: Permission of instructor. Evaluation of physical, aesthetic, comfort, care, and durability properties of textile products and testing procedures to determine suitability for desired end uses and as it relates to interior fabrics.
524 NUTRITION IN THE LIFE CYCLE
Prerequisite: Permission of instructor. Study of the physiological basis for nutritional requirement, including factors which affect growth, development, maturation and nutritional status from conception through the elderly years.
3 credits

525 TEXTILES FOR APPAREL
Prerequisite: Permission of instructor. Evaluation of physical, aesthetic, comfort, care and durability properties of textile products and testing procedures to determine suitability for desired end uses.
3 credits

526 HUMAN NUTRITION
Prerequisites: Acceptance into the graduate program or permission of instructor. Corequisites: 543, 545. Application of principles of nutrition, metabolism, and assessment. Analysis and interpretation of current literature.
3 credits

527 GLOBAL ISSUES IN TEXTILES AND APPAREL
Prerequisite: Permission of instructor. Examines the global structure and scope of the textile and apparel industries emphasizing an economic perspective.
3 credits

529 NUTRITION IN MEDICAL SCIENCE II
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.
3 credits

529 NUTRITION IN MEDICAL SCIENCE II CLINICAL
Prerequisite: Admission to CP program. Corequisite: 528. Clinical experience in hospitals; application of principles of nutrition care.
3 credits

531 PROFESSIONAL PRESENTATION SKILLS IN FAMILY & CONSUMER SCIENCES
Prerequisite: Permission of instructor. Emphasis on development of abilities and strengths in creation of equipment, materials, motion, speech, and presentation delivery relating to education and industry in Family and Consumer Sciences.
3 credits

536 TEXTILE CONSERVATION
Prerequisite: Permission of instructor. Principles and practices of textile conservation with emphasis on procedures appropriate for collectors and small historical agencies.
3 credits

537 HISTORIC COSTUME
Study of western costume and textiles from antiquity to 1830, with emphasis on social-cultural influences.
3 credits

538 HISTORY OF FASHION
Prerequisite: Permission of instructor. Study of western fashion, textiles, and designs from the fifteenth century to present, with emphasis on social-cultural influences.
3 credits

540 FAMILY CRISIS
Study of family stress and crisis including internal and external variables and their influence on development, organization, coping and recovery. Includes theory, research and application dimensions.
3 credits

541 FAMILY RELATIONSHIPS IN MIDDLE AND LATER YEARS
Study of family patterns and problems during middle and later years of life with emphasis on physiological and biological changes and economic and social adequacy. Research and trends in gerontology.
3 credits

542 HUMAN SEXUALITY
Prerequisite: Permission of instructor. Introduction to problems and values. Emphasis is on the role of values in intimate relationships, the diverse dimensions of sexual responsibility.
3 credits

543 NUTRITION ASSESSMENT
Corequisite: 526 or permission. Application of principles of nutrition and assessment. Analysis and interpretation of current literature. Open to dietetics majors only.
3 credits

544 NUTRITION IN MEDICAL SCIENCE LONG TERM CARE - CLINICAL
Prerequisites: CP graduate students only. Clinical experiences in long term care facilities for application of principles of nutritional care.
2 credits

546 CULTURE, ETHNICITY AND THE FAMILY
Study of the role of culture and ethnicity in the adaptation of the family system to environment. Program applications considered. Online section available.
3 credits

548 BEFORE AND AFTER SCHOOL CHILD CARE
Study of the development, implementation and evaluation of school-age child-care programs before and after school and vacation periods.
2 credits

549 FLAT PATERN DESIGN
Prerequisite: Permission of instructor. Theory and experience in clothing design using flat pattern techniques.
3 credits

551 CHILD IN THE HOSPITAL
Prerequisite: Permission of instructor. Seminar dealing with special needs and problems of hospitalized child and family. Literature related to effects, separation, illness and stress. Examination of strategies for coping.
4 credits

552 CHILD, ILLNESS AND LOSS
This course examines the symptoms of illness, loss and bereavement in modern society with a special emphasis on children and families.
3 credits

553 FACILITATING SUPPORT GROUPS
Theories, strategies and skills needed to facilitate support groups for children and adults are studied using a variety of approaches including participation in a support group.
3 credits

555 PRACTICUM EXPERIENCE IN A CHILD LIFE PROGRAM
Prerequisite: 561 or permission of instructor. Field experience in a child life program and class application of principles of nutrition care.
1 credit

556 ORGANIZATION AND SUPERVISION OF CHILD-CARE CENTERS
Prerequisites: 586 and 587. Provides an overview of Case Management principles and practice. Emphasis on process and functions, assessment, cross-system service planning and coordination, advocacy, and cultural diversity.
3 credits

561 CASE MANAGEMENT FOR CHILDREN AND FAMILIES I
Prerequisite: 561. Provides in-depth exploration of Case Management principles and practice. Includes roles, values, principles, state and service systems, and service coordination.
3 credits

562 CASE MANAGEMENT FOR CHILDREN AND FAMILIES II
Prerequisite: 561. Provides an overview of Case Management basics in a multi-systems collaborative context. Includes roles, values, principles, state and service systems, and service coordination.
3 credits

566 THE FOOD INDUSTRY: ANALYSIS AND FIELD STUDY
Prerequisites: permission. Field analysis of the food industry and its effects on the food supply. Chemical, physical and biological effects of processing and storage, on-site tours of processing plants.
3 credits

570 CULTURAL DIMENSIONS OF FOOD
A review of some of the cultural and historical influences on development of food habits. Emphasis on evolution of diets; effects of religion, education, gender roles, media.
3 credits

576 DEVELOPMENTS IN FOOD SCIENCE
Prerequisite: permission. Advanced study of the chemistry and physics of food components, affecting characteristics of foods. Critical evaluation of current basic and applied research emphasized.
3 credits

580 COMMUNITY NUTRITION I LECTURE
Prerequisite: Permission of instructor. Corequisite: 581. Socio-cultural aspects of community nutrition services. Study of program implementation and evaluation, and rationales for nutrition services.
3 credits

581 COMMUNITY NUTRITION I CLINICAL
Corequisite: 580. Field placement in area agencies offering nutrition services. Study of the agency’s goals, organization, and philosophy of nutritional care. Credit/No credit.
1 credit

582 COMMUNITY NUTRITION II LECTURE
Prerequisite: 580 (for student only). Corequisite: 583 for CP student only. This course will focus on managing nutrition services for productivity, economic community and labor resources, and evaluation. Focus will be on the “dilemmas” various publics about nutrition.
3 credits

583 COMMUNITY NUTRITION II CLINICAL
Prerequisite: CP students only. Corequisite: 582. Field placement in area agencies offering nutrition services. Study of the agency’s goals, organization, and philosophy of nutritional care. Credit/No credit.
1 credit

584 HOSPITAL SETTINGS, CHILDREN, AND FAMILIES
Prerequisite: Permission of instructor. Focuses on hospitals as a major social institution; introduces procedures and functions of the hospital; roles played by various hospital personnel plus cursory knowledge of medical terminology, common childhood diseases, illnesses and injuries.
3 credits

585 SEMINAR IN FAMILY AND CONSUMER SCIENCES
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.
1-3 credits

587 SPORTS NUTRITION
Prerequisite: Permission of instructor. In-depth study of energy metabolism and utilization before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations are emphasized.
3 credits

588 PRACTICUM IN DIETETICS
Prerequisite: approval of advisor/instructor. Practical experience in application of the principles of nutrition.
1-3 credits

589 PROFESSIONAL PREPARATION FOR DIETETICS
Prerequisite: open to those dietetics students in the Didactic Program or Graduate program who apply for a Dietetic Internship. Historical structure of dietetics and where the profession is going. Specialty areas of dietetic practice are explored. Students prepare the application for dietetic internships.
1 credit

590 WORKSHOP IN FAMILY AND CONSUMER SCIENCES
Investigation on current issue or topic in selected areas of family and consumer sciences. May be on off-campus student tour or an on-campus full-time group meeting.
1-3 credits

591 CAREER-TECHNICAL FOOD INSTRUCTIONAL STRATEGIES
Prerequisite: senior standing or permission. Organization of Career-Technical Family and Consumer Sciences programs in public schools grades 4-12. Emphasis on strategies, compliance with state career-technical directives, student organizations, and program planning.
3 credits

593 NUTRITION FOR ATHLETES
Study of metabolism before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations.
3 credits

594 PRACTICUM IN PARENT AND FAMILY EDUCATION
Prerequisites: 596, 605. Provides on-site opportunities to apply parent and family education skills. Includes a review of strategies, ethical considerations, and supervision by the on-site director.
3 credits

595 CHILD LIFE INTERNSHIP
Prerequisite: Acceptance into the program. Field experience in a child life program at an approved pediatric facility under the supervision of Certified Child Life Specialists.
5 credits

596 PARENT EDUCATION
Prerequisite: Permission of instructor. Practical application that reviews and analyzes various parenting techniques with major emphasis on the evaluation of parent education programs. Online course.
3 credits

598 STUDENT TEACHING SEMINAR
Corequisite: 6500/6939. Seminar for students currently enrolled in Family and Consumer Sciences student teaching. Emphasis on block and lesson plan development, licensure, portfolio development, PRAXIS II, professional development, and student teaching reflections.
1 credit

602 FAMILY IN LIFE-SPAN PERSPECTIVE
Study of individual and family development across life span. Emphasis on adjustment patterns and interpersonal competence. Implications for education theory and social policy.
3 credits

604 ORIENTATION TO GRADUATE STUDIES IN FAMILY AND CONSUMER SCIENCES
Introduction to the concepts and processes necessary for graduate study in the interdisciplinary field of family and consumer sciences.
1 credit

605 DEVELOPMENTAL PARENT-CHILD INTERACTIONS
Prerequisite: Permission of instructor. Study of reciprocal interactions between parent and child from birth to adulthood. Consideration of cross-cultural studies, historical and societal influences, and various family characteristics and structures. Online course.
3 credits

607 FAMILY DYNAMICS
Development of techniques in family and consumer sciences programs utilizing role theory, exchange theory and systems theory as understood through the study of the family across the life cycle.
3 credits

610 CHILD DEVELOPMENT THEORIES
Prerequisite: Permission of instructor. A comparative study of developmental theories of the child within the family context. Application of the theories to child rearing in the family will be emphasized.
3 credits

624 ADVANCED HUMAN NUTRITION I
Prerequisite: graduate or graduate-level courses in nutrition and biochemistry. In-depth study of human nutrition emphasizing metabolism physiological functions, and interrelation- ship of macronutrients, micronutrients and the determinants of human energy requirements.
3 credits

625 ADVANCED HUMAN NUTRITION II
Prerequisite: 624 or equivalent in-depth study of human nutrition with and emphasis in the utilization, physiological functions and interrelationships of vitamins and minerals.
2 credits

631 PROBLEMS IN DESIGN
(1-3 credits) (May be repeated, but no more than 6 credits will apply to M.A.) Prerequisite: written proposal approved by faculty advisor. Individual solution of a specific design problem within the student’s area of clothing, textile and interior specialization.

632 ADVANCED FOOD THEORY AND APPLICATIONS
Prerequisite: 520 or permission. Advanced study of the chemistry and physics of food components, examining the characteristics of foods. Critical evaluation of current basic and applied research emphasized.
3 credits

634 MATERIAL CULTURE STUDIES
Prerequisite: permission. A study of clothing, textiles, and interiors from a cultural and historical perspective.
3 credits

639 THEORIES OF FASHION
In-depth analysis of the theories underlying fashion and evaluation of current research related to the study of fashion.
3 credits
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652 PROFESSIONAL PRESENTATION IN FAMILY AND CONSUMER SCIENCES 3 credits
Developing effective family and consumer sciences professional presentations. Emphasis on visual, auditory, demonstration, public relations, materials, user manuals, conference management, portfolio development, and learning styles.

665 DEVELOPMENT IN INFANCY AND EARLY CHILDHOOD 3 credits
Analysis of research and theoretical frameworks regarding infant and child development from conception through age 5. Implications for guidance and education.

679 SOCIAL PSYCHOLOGY OF DRESS AND THE NEAR ENVIRONMENT 3 credits
Study of dress and the near environment as they relate to human behavior at the micro and macro level.

680 HISTORICAL AND CONCEPTUAL BASES OF FAMILY AND CONSUMER SCIENCES 3 credits
History of the field of family and consumer sciences with emphasis on the leaders and the conceptual basis of the field.

685 RESEARCH METHODS IN FAMILY AND CONSUMER SCIENCES 3 credits
A study of family and consumer sciences research methods emphasizing concept and theory development, policy application and ethical considerations.

688 PRACTICUM IN FAMILY AND CONSUMER SCIENCES 3 credits
Prerequisite: permission of advisor/instructor. A minimum of 150 hours of supervised experience in an approved community setting to acquire skills related to area of specialization.

690 THESIS RESEARCH/READING 3 credits
Prerequisite: permission of thesis advisor. Supervised reading and research related to specific topic. May be repeated once.

694 MASTER’S PROJECT 5 credits
Prerequisite: permission of advisor. The development, implementation and evaluation of a community-based supervised field project which makes a significant contribution to the field and may lead to publication.

696 INTERNSHIP: ADVANCED PROGRAMMING IN CHILD LIFE 5 credits
Prerequisite: 690. Field experience in a specialized area in a child life program in an approved pediatric facility under the supervision of a certified child life specialist.

699 INDIVIDUAL INVESTIGATION IN FAMILY AND CONSUMER SCIENCES 3 credits
Prerequisite: permission of advisor. Individual investigation and analysis of a specific topic in the area of specialization of interest under direction of a faculty advisor.

701 RESEARCH METHODS IN PSYCHOLOGY 3 credits
Prerequisite: 699. Study of the psychological research process, design, sampling, data collection, and statistical analysis. Research methodology applied to problems peculiar to the field of psychology.

707 PSYCHOACOUSTICS 4 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of conditions/diseases that affect the nervous system, and the role of psychoacoustics in understanding these conditions.

708 SPEECH-LANGUAGE AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 3 credits
Prerequisite: 705, 707, 743. Study of disorders of speech, hearing, and language in public schools. Special reference to role of classroom teacher in identifying and referring student with suspected problems and in working with school clinician.

530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
Not open to communicative disorders major. Introduction to acquisition and development of comprehension and production of language – phonologically, semantically and syntactically. Relates language acquisition to perceptual development of child and looks at function of language in individual, family, and social contexts.

540 AUGMENTIVE COMMUNICATION 2 credits
Prerequisite: Graduate standing in speech-language pathology. Overviews augmentive communication systems – candidates, symbol systems, devices, vocabulary, funding. Considers interdisciplinary issues in assessment/intervention.

544 MULTICULTURAL CONSIDERATIONS FOR AUDIOLOGISTS AND SPEECH-LANGUAGE PATHOLOGISTS 2 credits
Prerequisite: 700. Study of multicultural considerations faced by audiologists and speech-language pathologists providing services to families of children with communication disorders. Consideration of factors influencing culture, language, and families.

560 SPEECH-LANGUAGE AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 3 credits
Not open to communicative disorders major. Nature, causes and treatment of speech, hearing and language disorders in public schools. Special reference to role of classroom teacher in identifying and referring student with suspected problems and in working with school clinician.

616 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Prerequisites: permission of advisor and/or instructor. Principles and use of clinical and research instrumentation in speech and hearing.

629 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I 3 credits
Introduction to experimental design in field of communicative disorders.

626 ARTICULATION 2 credits
Historical background, current theories and research related to etiology, evaluation and treatment of articulation and phonology disorders.

623 SUPPORT SYSTEMS FOR INDIVIDUALS AND FAMILIES WITH COMMUNICATIVE DISORDERS 2 credits
Emphasizes students’ abilities to interview, 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 neurogenic speech and language disorders, and 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.

630 CLINICAL ISSUES IN CHILD LANGUAGE 4 credits
Prerequisite: graduate status. 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 OXYPHAGIA 3 credits
Prerequisites: 652, 690. Study of 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.

639 AUDIOLOGY 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.

660 EXTERNAL SPEECH PATHOLOGY 6 credits
Prerequisite: Permission (may be repeated once). Clinical practicum in a selected speech-language pathology or audiology facility.

667 SPECIAL PROBLEMS: SPEECH PATHOLOGY AND/OR AUDIOLOGY 1-3 credits
Prerequisite: Permission of instructor. Guided research or research in selected topics in speech-language pathology. Review and discuss issues raised during internship.

679 INTERNSHIP: SPECIAL PROBLEMS 1 credit
May be repeated once. Corequisite: 698. Taken concurrently with externship in speech-language pathology. Review and discuss issues raised during externship.

701 BASIC AND APPLIED PHYSICAL ACOUSTICS FOR AUDIOLOGY 4 credits
Prerequisite: Permission 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 audiometry equipment. A minimum of 1 credit hour lab.

702 ANATOMY AND PHYSIOLOGY OF THE PERIPHERAL AUDITORY AND VESTIBULAR SYSTEMS 2 credits
Prerequisite: admission to the Au.D. program or permission of instructor. A study of the anatomy, biophysics, and physiology of the auditory and vestibular systems.

703 ACOUSTIC PHONETICS 3 credits
Prerequisite: Permission to the Au.D. program or permission of instructor. Study of the acoustic basis for normal and pathological speech. A minimum of 1 credit hour lab.

704 CRITICAL ANALYSIS OF RESEARCH IN AUDIOLINGUISTICS 4 credits
Prerequisite: permission to the Au.D. program or permission of instructor. General introduction to the research process with an emphasis on acquiring a reading knowledge of research and an ability to evaluate research.

705 AUDITORY DISORDERS 2 credits
Prerequisite: admission to the Au.D. program or permission. Study of conditions/diseases that affect the auditory system.

706 ANATOMY AND PHYSIOLOGY UNDERLYING NEURO-OTOLGY 4 credits
Prerequisite: 702. An in-depth study of the anatomy and physiology of the central auditory and vestibular nervous systems includes 1 credit hour lab.

707 PSYCHOACOUSTICS 3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of the principles, procedures, and research of psychoacoustics; the relationships between the physical dimensions of auditory stimuli and the resultant perceptual experience with normal and impaired hearing.

708 CRITICAL ANALYSIS OF RESEARCH II 2 credits
Prerequisite: 704. Development of a reading knowledge of research and the ability to evaluate the quality of research studies.

709 AUDIOLOGIC ASSESSMENT 3 credits
Prerequisite: 705, A3: Theoretical basis for tests underlying basic audiologic assessments.

710 INDUSTRIAL AND COMMUNITY NOISE 3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Theoretical principles of noise measurement; etiology of noise-induced hearing loss and acoustic trauma; industrial hearing conservation program. Occupational Health and Safety Act, community and recreational noise evaluation and management.

711 SPEECH-LANGUAGE PATHOLOGY FOR THE AUDIOLOGIST 3 credits
Prerequisites: admission to the Au.D. program or permission of instructor. Examination of normal and abnormal aspects of speech and language including their impact on auditory function and the use of auditory tests.

712 DIAGNOSIS OF AUDITORY DISORDERS 3 credits
Prerequisite: 709. Underlying theory and principles of administration and interpretation of site-dission tests.

713 HEARING AID TECHNOLOGY 2 credits
Prerequisite: 701. Study of amplification systems for the hearing impaired.

714 GERONTOLOGICAL ISSUES IN AUDIOLOGY 3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of physiological, psychological, and sociological theories of aging with a focus on the etiology, symptomatology, assessment, and rehabilitation of older adults with hearing impairments.
### Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>601</td>
<td>FOUNDATION FIELD PRACTICUM</td>
<td>3 credits</td>
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<tr>
<td>602</td>
<td>FOUNDATION FIELD PRACTICUM</td>
<td>3 credits</td>
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<tr>
<td>603</td>
<td>SOCIAL WORK PRACTICE WITH SMALL SYSTEMS</td>
<td>3 credits</td>
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<tr>
<td>604</td>
<td>ADVANCED FIELD PRACTICEM</td>
<td>3 credits</td>
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<tr>
<td>605</td>
<td>SOCIAL WORK PRACTICEM</td>
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<td>607</td>
<td>ADVANCED PRACTICEM</td>
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<td>608</td>
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<tr>
<td>611</td>
<td>DYNAMICS OF RACISM AND DISCRIMINATION</td>
<td>3 credits</td>
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<tr>
<td>622</td>
<td>FUNDAMENTALS OF RESEARCH</td>
<td>3 credits</td>
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<td>623</td>
<td>FUNDAMENTALS OF RESEARCH</td>
<td>3 credits</td>
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<tr>
<td>631</td>
<td>HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT : SMALL SOCIAL SYSTEMS</td>
<td>3 credits</td>
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<tr>
<td>646</td>
<td>SOCIAL WELFARE POLICY</td>
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<tr>
<td>650</td>
<td>ADVANCED STANDING INTEGRATIVE SEMINAR</td>
<td>6 credits</td>
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<tr>
<td>656</td>
<td>SOCIAL WORK PRACTICE WITH GAYS AND LESBIANS</td>
<td>3 credits</td>
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<tr>
<td>658</td>
<td>608; permission of instructor.</td>
<td>3 credits</td>
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<tr>
<td>701</td>
<td>SEMINAR IN AUDIOLOGY</td>
<td>2 credits</td>
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<tr>
<td>702</td>
<td>AUDIOLOGIC MANAGEMENT OF THE SCHOOL-AGED CHILD</td>
<td>3 credits</td>
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<tr>
<td>703</td>
<td>702, 716, 717. A course in child development and audiological education</td>
<td>3 credits</td>
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<tr>
<td>704</td>
<td>703. An introduction to clinical practicum in Audiology.</td>
<td>1 credit</td>
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<tr>
<td>705</td>
<td>704. A study of clinical assessment and management of audiological disorders</td>
<td>3 credits</td>
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<tr>
<td>706</td>
<td>705. Supervised practicum in audiology requiring the independent performance of audiological assessment and vestibular assessment and rehabilitation. Repeatable up to 8 credits.</td>
<td>3 credits</td>
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<tr>
<td>707</td>
<td>706. A study of clinical assessment and management of audiological disorders</td>
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<tr>
<td>708</td>
<td>707. Focus on educational audiological assessment and management of the hearing impaired population</td>
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<tr>
<td>710</td>
<td>709. Effort to improve educational audiological assessment and management of the hearing impaired population</td>
<td>2 credits</td>
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<td>713</td>
<td>712. A focus on the multidisciplinary approach to medical/surgical management of the hearing impaired population</td>
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NURSING

NURSING 8200:

509 INTERNATIONAL HEALTH 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 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

513 INTERPERSONAL COMMUNICATION IN HEALTH CARE 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

515 ADVANCED NURSING RESEARCH 3 credits
Prerequisite: Admission to MSN program. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

516 NURSING INQUIRY II 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

517 NURSING INQUIRY III 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

518 NURSING INQUIRY IV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

519 NURSING INQUIRY V 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

520 NURSING INQUIRY VI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

521 NURSING INQUIRY VII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

522 NURSING INQUIRY VIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

523 NURSING INQUIRY IX 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

524 NURSING INQUIRY X 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

525 NURSING INQUIRY XI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

526 NURSING INQUIRY XII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

527 NURSING INQUIRY XIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

528 NURSING INQUIRY XIV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

529 NURSING INQUIRY XV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

530 NURSING INQUIRY XVI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

531 NURSING INQUIRY XVII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

532 NURSING INQUIRY XVIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

533 NURSING INQUIRY XIX 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

534 NURSING INQUIRY XX 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

535 NURSING INQUIRY XXI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

536 NURSING INQUIRY XXII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

537 NURSING INQUIRY XXIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

538 NURSING INQUIRY XXIV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

539 NURSING INQUIRY XXV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

540 NURSING INQUIRY XXVI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

541 NURSING INQUIRY XXVII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

542 NURSING INQUIRY XXVIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

543 NURSING INQUIRY XXIX 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

544 NURSING INQUIRY XXX 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

545 NURSING INQUIRY XXXI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

546 NURSING INQUIRY XXXII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

547 NURSING INQUIRY XXXIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

548 NURSING INQUIRY XXXIV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

549 NURSING INQUIRY XXXV 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

550 NURSING INQUIRY XXXVI 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

551 NURSING INQUIRY XXXVII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

552 NURSING INQUIRY XXXVIII 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.

553 NURSING INQUIRY XXXIX 3 credits
Prerequisite: Second level graduate student or permission of instructor. The course presents an overview of selected health care systems in other cultures. The course is designed to orient students to the diversity of health care systems and to the impact of health care on the quality of life.
### Graduate Courses

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Notes</th>
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<tbody>
<tr>
<td>624</td>
<td>ADULT/GERONTOLOGICAL HEALTH NURSING NP IV</td>
<td>1</td>
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<tr>
<td>625</td>
<td>PRIMARY CARE OF THE OB PATIENT/FNP</td>
<td>1</td>
<td>622, 629, 692. Corequisites: 623, 694. Integration of knowledge and skills for a primary care provider of adults/older adults with emphasis on problems of increasing complexity. Issues integral to APN practice are addressed.</td>
</tr>
<tr>
<td>627</td>
<td>ADULT/GERONTOLOGICAL HEALTH NURSING NP II PRACTICUM</td>
<td>2</td>
<td>Prerequisite: Admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certificate program, 610, corequisite: 610, 620. Prac. with emphasis on comprehensive assessment, health promotion, and risk reduction for common health problems of adults/older adults.</td>
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<tr>
<td>630</td>
<td>RESOURCE MANAGEMENT IN NURSING SETTINGS</td>
<td>3</td>
<td>Prerequisite: Adm. to Graduate Program or permission of instructor. Examines management of fiscal and human resources in nursing service settings.</td>
</tr>
<tr>
<td>633</td>
<td>FISCAL MANAGEMENT IN NURSING ADMINISTRATION</td>
<td>3</td>
<td>Prerequisite: Admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certificate program, 620, 627; corequisite: 621 or its equivalent for Post-MSN, 690. Practicum with emphasis on health care financial management and organization of the role of the nurse administrator.</td>
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<tr>
<td>637</td>
<td>PRACTICUM: NURSING ADMINISTRATION</td>
<td>2</td>
<td>Prerequisites: 660, 692, 693. Leadership and management theories are utilized to guide study of the role of the nurse administrator.</td>
</tr>
<tr>
<td>638</td>
<td>PRACTICUM: NURSING ADMINISTRATION</td>
<td>2</td>
<td>Prerequisites: 660, 692, 693. Leadership and management theories are utilized to guide study of the role of the nurse administrator.</td>
</tr>
<tr>
<td>640</td>
<td>NURSE ANESTHESIA RESIDENCY</td>
<td>3</td>
<td>Prerequisite: admission to the Nurse Anesthesia Residency Program. The course presents content dealing with the chemical and physical components of anesthesia agents.</td>
</tr>
<tr>
<td>641</td>
<td>PHARMACOLOGY FOR NURSE ANESTHESIA</td>
<td>4</td>
<td>Prerequisite: admission to Adult/Gerontological Nurse Practitioner track or Post-MSN certificate program, 620, 627; corequisite: 621 or its equivalent for Post-MSN, 690. Practicum with emphasis on understanding and application of pharmacodynamics of anesthesia agents commonly used in the administration of general anesthesia. Includes use of muscle relaxants.</td>
</tr>
<tr>
<td>642</td>
<td>INTRODUCTION TO NURSE ANESTHESIA</td>
<td>2</td>
<td>Prerequisite: admission to the Nurse Anesthesia Program. This course provides a general overview of anesthetic concepts and prepares students for their in-hospital residency. The course includes a lecture component and selected laboratory experiences.</td>
</tr>
<tr>
<td>643</td>
<td>PRINCIPLES OF ANESTHESIA</td>
<td>4</td>
<td>Prerequisite: 640. This course focuses on the acquisition of basic skills related to nurse anesthetist. Concepts related to the professional role of an anesthetist.</td>
</tr>
<tr>
<td>644</td>
<td>PHARMACOLOGY FOR NURSE ANESTHESIA</td>
<td>3</td>
<td>Prerequisite: 641. Focuses on mechanisms of drug transport within the human body and role and indirect medications. The effects of accessory drugs are also discussed.</td>
</tr>
<tr>
<td>645</td>
<td>PRINCIPLES OF ANESTHESIA</td>
<td>4</td>
<td>Prerequisite: 643. Emphasis on pre-operative anesthesia care including induction techniques. Focuses on airway management, fluid therapy, and ventilator use.</td>
</tr>
<tr>
<td>646</td>
<td>NURSE ANESTHESIA RESIDENCY II</td>
<td>4</td>
<td>Prerequisite: 637. Concentration on the theoretical basis for specific nursing interventions and the rationale for their use in thoracic anesthesia, cardiac anesthesia, vascular anesthesia, and neurological anesthesia management.</td>
</tr>
<tr>
<td>647</td>
<td>PROFESSIONAL ROLE SEMINAR</td>
<td>2</td>
<td>Prerequisites: 644, 645. Discusses issues, concepts, and theories related to the professional role of nurse anesthetists. Focuses on leadership/management content as well as professional ethical issues.</td>
</tr>
<tr>
<td>648</td>
<td>NURSE ANESTHESIA RESIDENCY III</td>
<td>4</td>
<td>Prerequisite: 644. Comprehensive review of basic and advanced anesthetic concepts pertinent to the entry-level nurse anesthetist.</td>
</tr>
<tr>
<td>651</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING</td>
<td>3</td>
<td>Prerequisite: admission to Adult/Adolescent Health Nursing NP track or Post-MSN Child and Adolescent Health NursingNP program. Clinical practice experience in providing primary care nursing with emphasis on positive health behavior outcomes of well children/adolescents, and those with minor health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>652</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING I PRACTICUM</td>
<td>2</td>
<td>Prerequisite: Admission to Adult/Adolescent Health Nursing NP track or Post-MSN Child and Adolescent Health NursingNP program. Clinical practice experience in providing primary care nursing with emphasis on positive health behavior outcomes of well children/adolescents, and those with minor health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>653</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING II PRACTICUM</td>
<td>2</td>
<td>Prerequisite: 651. Clinical practice experience in providing primary care nursing with emphasis on positive health behavior outcomes of children/adolescents with acute and/or chronic health disruptions in family/community contexts.</td>
</tr>
<tr>
<td>654</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING III PRACTICUM</td>
<td>2</td>
<td>Prerequisite: 651. Clinical practice experience in providing primary care nursing with emphasis on positive health behavior outcomes of children/adolescents with acute and/or chronic health disruptions in family/community contexts.</td>
</tr>
<tr>
<td>655</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING II</td>
<td>3</td>
<td>Emphasis on positive health behavior outcomes of children/adolescents with acute and chronic health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>656</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING III</td>
<td>3</td>
<td>Emphasis on positive health behavior outcomes of children/adolescents with acute and chronic health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>657</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING II</td>
<td>3</td>
<td>Emphasis on positive health behavior outcomes of children/adolescents with acute and chronic health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>658</td>
<td>PHARMACOLOGY FOR CHILD AND ADOLESCENT HEALTH NURSING</td>
<td>2</td>
<td>Prerequisite: 651. Clinical practice experience in providing primary care nursing with emphasis on positive health behavior outcomes of children/adolescents with acute and chronic health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>659</td>
<td>PSYCHOLOGICAL ASSESSMENT IN CHILD AND ADOLESCENT HEALTH NURSING</td>
<td>2</td>
<td>Prerequisite: 651. Clinical practice experience in providing primary care nursing with emphasis on positive health behavior outcomes of children/adolescents with acute and chronic health disruption/problems in family/community contexts.</td>
</tr>
<tr>
<td>660</td>
<td>PSYCHIATRIC HEALTH, APN I PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>662</td>
<td>PSYCHIATRIC HEALTH, APN II PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>663</td>
<td>PSYCHIATRIC HEALTH, APN III PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>664</td>
<td>PSYCHIATRIC HEALTH, APN IV PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>666</td>
<td>PSYCHIATRIC HEALTH, APN VI PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>668</td>
<td>PSYCHIATRIC HEALTH, APN VIII PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>669</td>
<td>PSYCHIATRIC HEALTH, APN IX PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>670</td>
<td>PSYCHIATRIC HEALTH, APN X PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>672</td>
<td>PSYCHIATRIC HEALTH, APN XII PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>674</td>
<td>PSYCHIATRIC HEALTH, APN XIV PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
<tr>
<td>675</td>
<td>PSYCHIATRIC HEALTH, APN XV PRACTICUM</td>
<td>2</td>
<td>Prerequisites: 664, 665. Corequisite: 667. Development of clinical competencies in direct intervention therapies with families/groups experiencing the stress of actual or potential health problems.</td>
</tr>
</tbody>
</table>
POLYMER ENGINEERING 9841:

525 INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS 3 credits
Prerequisite: Permission of instructor. Nature of polymer blends and compounds and their applications. Preparation and technology using batch and continuous mixers. Mixing Mecha-

527 MOLD DESIGN 3 credits
Prerequisite: Permission of instructor. Molding methods to manufacture polymeric products. Machining, materials, molds, equipment, computer-aided design.

550 ENGINEERING PROPERTIES OF POLYMERS 3 credits
Prerequisite: Permission of instructor. Introduction to engineering properties and polymer pro-
cessing. Emphasis on rheometry, polymer test methods in general, rubber, and fluid systems. Product design, rheology, rheometry, and polymer processing concepts.

551 POLYMER ENGINEERING LABORATORY 3 credits
Prerequisite: Permission of instructor. Laboratory experiments on the rheological character-
ization of polymer melts, fabrication of engineering products, structural investigation of poly-
mer melts.

601 POLYMER ENGINEERING SEMINAR 1 credit
Presentations of recent research on topics in polymer engineering by internal and external speakers.

611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIATION 2 credits
Characterization of orientation, morphology, superstructure in polymers using x-ray, light scatter-
ing, birefringence, diffraction, X-ray crystallography, unit cell determination.

621 RHEOLOGY OF POLYMERIC FLUIDS 3 credits
Experimental methods of determination of rheological properties of polymer melts, solutions, emulsions, mixtures, melts, and melts and solutions. viscoelastic fluid theory, application to extru-
sion, fiber, film processing molding. Structure development in processing.

622 ANALYSIS AND DESIGN OF POLYMERIC PROCESSING OPERATIONS I 3 credits
Prerequisite: 621. Mathematical modeling of the analysis and design of polymer processing op-
erations including extruder screws, injection molding, die designs, dies, fibers, film forming.

623 ANALYSIS AND DESIGN OF POLYMERIC PROCESSING OPERATIONS II 3 credits
Prerequisite: permission of instructor. Basic studies on non-isothermal phenomena in polymer engineering emphasizing crystallization, vitrification, freezing, orientation and residual stress,
effects, including fiber spinning and film extrusion.

631 ENGINEERING PROPERTIES OF SOLID POLYMERS 2 credits
Transitions as a function of polymer structure, optical characteristics, mechanical including ulti-
mate properties, viscoelastic behavior of elastomers and plastics, large strain behavior and ex-
periments.

641 POLYMERIC MATERIALS ENGINEERING SCIENCES 2 credits
Physico-chemical properties of amorphous and crystalline polymers. Glass transitions, crys-
talization, molecular orientation and morphology of important commercial polymers, fabricat-
ing and processing techniques of materials.

650 BASIC ENGINEERING FOR POLYMER ENGINEERS 3 credits
Basic concepts of polymer engineering taught in lecture-laboratory format intended for orien-
tation of new graduate students.

651 POLYMER ENGINEERING LABORATORY 3 credits
Rheological characterization of polymer melts, rubber and plastic extrusion, extrudate swell, injection and compression molding, crystallization behavior, wire diffraction, film blowing, impact and tensile testing.

675 CARBON-POLYMERS NANOTECHNOLOGY 3 credits
Prerequisite: Permission of instructor. This course is an introduction to coating science and the syn-
thesis of polymeric binders and pigments used in commodity coatings will be the focus of the first half of the course. The second part of the course will focus on coatings formulation and end-use applications for commodity coatings.

699 MASTER’S THESIS 16 credits
(May be repeated) Supervised original research in specific area of polymer engineering.

712 RHE-OPTICS OF POLYMERS 2 credits
Applications of rheo-optical methods as means of determining stress fields in polymeric glass-
es and fluids during deformation, rheo-optical properties of polymers in glassy, rubbery and fluid states. Theory of dynamic birefringence and its application to mechanical relaxations of amorphous and semi-crystalline polymers, and recent experimental results.

715 ADVANCED CHARACTERIZATION OF FUNCTIONAL MATERIALS 3 credits
Prerequisite: Permission of instructor. This course is an introduction to coating science and the syn-
thesis of polymeric binders and pigments used in commodity coatings will be the focus of the first half of the course. The second part of the course will focus on coatings formulation and end-use applications for commodity coatings.

720 MOLECULAR ASPECTS OF POLYMER RHEOLOGY 2 credits
Prerequisite: 621 or permission of instructor. Molecular theory for concentrated solutions and melts of flexible homopolymers, molecular rheology of miscible polymer blends, block copoly-
mers, and liquid crystalline polymers.

721 RHEOLOGY AND PROCESSING TWO-PHASE POLYMER SYSTEMS 2 credits
Prerequisite: 621 or equivalent. Particles in polymeric media, mixing devices and design, theo-
rical hydrodynamics of suspensions of rigid particles, experimental studies of rheological behavior of colloids and emulsions. Theoretical relationships describing suspension behavior, dispersion of droplets to form an emulsion, phase morphology development and rheological properties of blends.

722 ADVANCED MODELING OF POLYMERIC PROCESSING 2 credits
Prerequisite: permission of instructor. Modeling of processing operations including extrusion malding, fibers, film forming, computer-aided design.

723 RHEOLOGY AND PROCESSING OF ELASTOMERS 2 credits
Interpretation of rheological properties and critical study and analysis of processing operations including extrusion molding, fibers, film forming, computer-aided design, vulcanization.

724 ADVANCED EXTENSION AND COMPOUNDING 2 credits
Principles of operation and flow in single and twin screw extruders, screw design, character-
istics of internal mixers, analysis and simulation of flow.

725 CHEMORHEOLOGY AND PROCESSING OF THERMOSETS 2 credits
Prerequisites: 621 or 622, or permission of instructor. Rheological behavior of thermosul-
farizable rubbers, time-temperature-transformation relationships in thermosets, reaction injec-
tion molding, transfer molding, pultrusion.

727 ADVANCED POLYMER RHEOLOGY 2 credits
Prerequisite: 621 or equivalent. Second level course in non-linear constitutive equation for vis-
collastic, viscoelastic, viscoelastic-plastic polymeric materials. Utility and applicability to poly-
mmer processing.

728 NUMERICAL METHODS IN POLYMER ENGINEERING 3 credits
Prerequisite: 621, 622, 623. Basics of generally accepted numerical methods for nume-
crical problems in polymer solid mechanics and technological applications. Numerical problems in polymer fluid mechanics and polymer processing.

731 STRESS ANALYSIS OF POLYMERS AND COMPOSITES 2 credits
Prerequisite: 631. The design of rubber molds, bearings and sandwich components with demonstration of finite element methods. Classical plates and shells theories with applica-
tions to composite structures.

745 LIQUID CRYSTALS 2 credits
Prerequisite: permission of instructor. Structure of low molecular weight and polymeric liquid crystals. Characterization, optical properties, including birefringence, liquid-crystal phase transitions, structure-property relationships, processing of polymeric species.

747 POLYMER COLLOIDS 3 credits
Prerequisite: permission of instructor. Colloidal dispersions, phase stability, aggregation struc-
tures, thermodynamics, kinetics of phase transitions in polymer colloids. Emulsion and solu-
sion polymerization, organogel-morphic hybrid materials, coating technology. Rheology of colloid polymers.

749 PHASE TRANSITIONS IN POLYMER BLENDS AND ALLOYS 3 credits
Prerequisite: permission of instructor. Eliciting thermodynamics of polymer blends, block copolymers, crystal-like/rud-crystalline polymers, and kinetics of phase transitions. Structure development and modeling of reactive polymer blends.

761 INJECTION AND COMPRESSION MOLDING FUNDAMENTALS 2 credits
Prerequisite: permission of instructor. This course provides fundamental knowledge of physi-
cal, thermal, and rheological properties required for injection and compression molding includ-
ing the theoretical and experimental aspects of various molding processes.

770 POLYMER NANOCOMPOSITES 3 credits
Prerequisite: Permission of instructor. Develops understanding on synthesis, characterization, processing, and properties of polymer nanocomposite materials involving nanoscale fillers in conjunction with thermosetting, thermoplastic, and elastomeric polymer matrices.

773 ADVANCED POLYMER COATING TECHNOLOGY 2 credits
Prerequisite: 641 or equivalent or permission of instructor. The polymeric binders used in rad-
iation coatings for electronic packaging and protective waterborne coatings will be stressed. The chemistry of dyes and the coatings science of pigments will be presented. The chemistry of radiation polymer degradation will also be presented.

777 MODELING OF NANOSCALE MATERIALS 3 credits
Prerequisite: Permission of instructor. Introduces molecular simulation methods (Monte Carlo, molecular dynamics) and their application to polymerrelated materials at the molecular and coarse-grain levels.

785 ADVANCED FUNCTIONAL POLYMERS 2 credits
Prerequisite: 611, 641, or permission of instructor. This course focuses on the recent devel-
opment of functional polymers for applications as advanced materials and smart devices, which requires the attendant to possess some prior knowledge of polymer science and poly-
mer engineering from such 600-level course(s) as mentioned above.

787 ADVANCED TOPICS IN POLYMER ENGINEERING 2-3 credits
(May be repeated) Prerequisite: permission of instructor. Advanced special topics intended for training of students in polymer engineering.

898 PRELIMINARY RESEARCH 1-3 credits
(May be repeated) Preliminary investigation of Ph.D. dissertation subject.

899 DOCTORAL DISSERTATION 1-9 credits
(May be repeated) Prerequisite: Successful completion of Ph.D. qualifying exams. Original research by a Ph.D. candidate.

POLYMER SCIENCE 9871:

601 POLYMER CONCEPTS 2 credits
Prerequisite: permission. Introduction to basic concepts in polymer science, including polymerization, copolymerization processes and naturally occurring polymers. Poly-
mer nomenclature, definitions and classifications. Polymer stereochemistry and structure-
property relationships.

602 SYNTHESIS AND CHEMICAL BEHAVIOR OF POLYMERS 2 credits
Prerequisite: 601 or instructor’s permission. Introduction to fundamental and practical aspects of polymer synthesis and reaction 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 tech-
niques in this field.

6028 POLYMER SCIENCE SEMINAR I AND II 1 credit
Each prerequisite limited to first-year second-year resident graduate students. Participation is re-
quired to present a 25-minute lecture on some aspect of polymer science and to participate in discus-
sions of lectures presented by other seminar participants.

613 POLYMER SCIENCE LABORATORY 3 credits
Prerequisites or corequisites: at least one of the courses 603, 631, 674, or 761, or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and processing and testing of polymers.

615 LABORATORY APPLICATIONS IN POLYMER SCIENCE 2 credits
Prerequisite: Basic knowledge of computer programming and permission of instructor. Lab-
boratory 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
Prerequisites: permission of instructor. Thermodynamics and mechanical and molecular basis of rubber elastic behavior; time-dependent mechanical properties of polymeric materials; melt-flow and entan-
glement theory; morphology of miscible 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 relaxation to time-dependent mechanical, electrical, and scattering properties of poly-
meric systems; time-temperature superposition; free volume; WLF relation; fracture; glass transition.

674 POLYMER STRUCTURE AND CHARACTERIZATION 2 credits
Prerequisites: 390/313 and 602/314 or permission of instructor. Presentation of statistical description of polymer molecular properties including chain polymerization and degradation, characterization of conformation, molecular weight, local structure, crystal structures and ordering.
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 16 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 milling, 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: 3150:463/563 or permission of 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, carbenium ions and cationic ions as well as polymerizations induced by coordination catalysts. Living polymerizations, molecular weights, molecular weight distributions, stereochemistry, solvent effects, counterion effects, temperature effects, Ziegler-Natta catalysis, olefin metathesis, functionalization of polymers, graft and block copolymer synthesis.

711 SPECIAL TOPICS: POLYMER SCIENCE 1-3 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.

899 DOCTORAL DISSERTATION 1-16 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 wishes to have a Hearing Committee render a recommendation on the grievance; 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 the complainant and the charged person of the appeal process and shall provide the parties with a copy of the procedures set forth in this document.

5. The grievance 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.

6. If the charged party in that grievance admits the validity of the grievance, the Senior Vice President and Provost shall substitute for the Department Chair.

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.
   e. To 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 students prior consent.
- Disclosure may be made to authorized representatives of the U.S. Department of Education, the Office of Inspector General, or state and local education authorities. These officials may have access to education records as a part of an audit or program review, or to ensure compliance with Student Financial Assistance program requirements. (Representatives of the Department include research firms that are under contract with the Department to conduct studies of financial aid procedures, using student information provided by the schools selected for the study. The term also includes the Student Financial Assistance program public inquiry contractor.)
- Disclosure may be made if it is in connection with financial aid that the student may receive a request from the Immigration and Naturalization Service (INS) or the Federal Bureau of Investigation (FBI) for access to a student’s records. Such a request may be granted only if the student information is needed to determine the amount of the aid, the conditions for the aid, the student’s eligibility for the aid, or to enforce the terms or conditions of the aid.
- Disclosure may be made to the student’s parent, if the student is dependent on the parent, as defined by the Internal Revenue Service. If the student receives more than half of his or her support from the parent, under the IRS definition, the student is a dependent of the parent. (Note that the IRS definition is quite different from the rules governing dependency status for the Student Financial Assistance programs.)
- Disclosure may be made to organizations that are conducting studies concerning the administration of student aid programs on behalf of educational agencies or institutions.

Annual Notification
Each year, The University of Akron is required to give notice of the various rights accorded to parents or students pursuant to the Family Education Rights and Privacy Act (FERPA). Parents and students, under FERPA, have a right to be so notified and informed. In accordance with FERPA, you are notified of the following:
- Right to Prevent Disclosures
  You have the right to prevent disclosure of Education Records to third parties with certain limited 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_6-25-07.doc.
- 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., 20202-3897 (202) 260-8001, concerning any belief you may have that The University of Akron has failed to comply with the provisions of FERPA.

Release of Directory Information
The Family Educational Rights and Privacy Act of 1974 (FERPA) permits The University of Akron to release directory (public) information about students. 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.

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_6-25-07.doc.
**Intellectual Property Rights and Obligations**

During your graduate study at The University of Akron and your professional career thereafter, you may become involved with at least one of the three main forms of intellectual property matters: copyrights, patents, and proprietary information/trade secrets. It is possible that certain discoveries may have commercial value, and therefore may invoke one or more of the above forms of intellectual property ownership.

**Copyright**

Copyright, by law, is automatically owned by the author or the authors, employer or sponsor when the work is placed in a fixed form (or medium). The University Board of Trustees automatically waives any claim of the University to copyright in books, texts, or articles of a purely academic nature authored by faculty or students except when the material is prepared as a sponsored project in which case it is the property of the University. Ownership would then be assigned to the University or its designee as the Board of Trustees directs. Questions of authorship are often best handled informally between potential joint authors.

**Patents**

All discoveries and inventions made by you while associated with The University of Akron must be reported to your faculty advisor, and through your advisor to your department chair, dean, and thereafter to the Office of Research Services and Sponsored Programs using the standard University of Akron invention disclosure form. This form provides a guide to describing and identifying the invention broadly and referencing specific results. Those persons thought to be possible inventors should also be identified on this form.

Patents on inventions made by University faculty, staff, students or anyone using University facilities are automatically owned by The University of Akron, as provided by Ohio Revised Code Section 3345.14. The final decision as to inventorship is a technical legal conclusion and will be made in the course of preparing a patent application by the patent attorney handling the application.

**Proprietary Information**

Those engaged in sponsored research may also be involved with developing or receiving proprietary information owned by others outside the University (e.g., sponsors such as corporations and individuals seeking certain research from the University). The University and the principal investigator may have agreed to maintain this proprietary information in confidence. In some situations, proprietary information of a sponsor may be provided to you or other project investigators during a research project. The sponsor desires, in these situations, to keep the information confidential (or secret) for as long as possible.

You are free to use the confidential information in the course of the project and discuss it with other students or faculty members engaged in that project. However, you may not use the information on other projects, nor may you discuss it with other individuals not involved with that project. While these commitments could delay public access to your thesis for a specified time, it will not delay acceptance or approval of your thesis/dissertation nor delay your graduation date.

The University and principal investigator must have written personal commitments from anyone working on a project involving and securing proprietary information. Therefore, all research students are required to execute the Confidentiality Agreement (sample form attached to this page). Prior to the start of your research, it is the responsibility of the research director to inform you in writing of any restrictions on the research with a copy also sent to the Office of Research Services and Sponsored Programs, if your research is subject to confidentiality provisions. You are also to be informed by the research director about the scope of the research that is covered by any confidentiality provisions.

If you have any questions as to what information is proprietary, seek guidance from your project’s principal investigator or your faculty research advisor.

**Questions of Authorship and Inventorship**

In the event you think you have been improperly omitted from the list of authors, you should first discuss the matter with your faculty advisor. If you have further questions or consider the matter unresolved, you should inform in the following order the appropriate department chair, the college dean, and finally the Dean of the Graduate School. (Questions are usually, and most quickly, resolved at the lowest administrative level.)

In the event you think you have been omitted as an inventor on a patent application, you should first discuss the matter with your faculty research advisor and, thereafter, with your department chair and finally with your academic dean. Following such consultations, either you and/or your faculty advisor, or your department chair, or your dean can request the patent attorney who prepared the application to recheck the findings and then prepare a formal report on inventorship. The whole patent application file may then be referred to the Office of General Counsel for a re-evaluation of valid inventors. However such as re-evaluation by patent counsel shall only occur with the prior knowledge of your faculty advisor, Department Chair and Dean.

**THE UNIVERSITY OF AKRON**

**INVENTION PATENT AGREEMENT**

Name:  
Social Security No.:  
Date Student’s Signature  

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 as far as the sponsor’s rights, including rights in inventions, patents, copyrights, are fully protected. Further, I hereby assign all rights, title and interest to The University of Akron for its disposal at its sole discretion.

3. I also acknowledge that certain technical information that may arise as a result of the sponsored research or supported activity may be of a confidential nature. I agree to be bound to the reasonable terms of any nondisclosure agreement as it has been agreed to by the University.

4. Finally, I acknowledge and agree that any rights which arise as a result of the sponsored research or supported activity belong to The University of Akron or to the sponsor as determined by agreement between The University of Akron and the sponsor.

Name:  
Social Security No.:  
Date  
Student’s Signature  

University Rule 3359-2-05  
http://www.uakron.edu/ogc/docs/02-05f.doc
Graduate Faculty*
September 2010
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Questions:

1. What is the University of Akron known for?
2. Who are some of the faculty members?
3. What fields of study are represented?
4. Are there any special programs or centers mentioned?
5. How many faculty members are listed?

Responses:

1. The University of Akron is known for its strong programs in business, engineering, arts, and sciences, among others.

2. Some of the faculty members include professors in history, science, engineering, arts, and more.

3. Fields of study represented include Business Administration, Biomedical Engineering, Biotechnology and Bioengineering, Chemistry, Chemical and Biomolecular Engineering, Computer Science, Mathematics, Mechanical Engineering, and many others.

4. Special programs or centers mentioned include Buchtel College of Arts and Sciences, Buchtel College of Engineering, and the Center for Information Technologies and E-Business.

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