### Calendar 2012-2013

#### Fall Semester 2012

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day and evening classes begin</td>
<td>Mon., Aug. 27</td>
</tr>
<tr>
<td>&quot;Labor Day (day and evening)</td>
<td>Mon., Sept. 3</td>
</tr>
<tr>
<td>Preliminary Dissertation Deadline</td>
<td>Mon., Oct. 22</td>
</tr>
<tr>
<td>Preliminary Thesis Deadline</td>
<td>Mon., Nov. 5</td>
</tr>
<tr>
<td>Veterans Day (classes held; staff holiday)</td>
<td>Mon., Nov. 12</td>
</tr>
<tr>
<td>Final Thesis/Dissertation Deadline</td>
<td>Mon., Nov. 19</td>
</tr>
<tr>
<td><strong>Thanksgiving Break</strong></td>
<td>Thu.-Sat., Nov. 22-25</td>
</tr>
<tr>
<td>Classes resume</td>
<td>Mon., Nov. 26</td>
</tr>
<tr>
<td>Final instructional day</td>
<td>Sat., Dec. 8</td>
</tr>
<tr>
<td>Final examination period</td>
<td>Mon.-Sat., Dec. 10-15</td>
</tr>
<tr>
<td>Commencement</td>
<td>Fri.-Sat., Dec. 14-15</td>
</tr>
<tr>
<td>Winter Recess</td>
<td>Mon.-Sun., Dec. 17-Jan. 13</td>
</tr>
</tbody>
</table>

#### Spring Semester 2013

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day and evening classes begin</td>
<td>Mon., Jan. 14</td>
</tr>
<tr>
<td>&quot;Martin Luther King Day&quot;</td>
<td>Mon., Jan. 21</td>
</tr>
<tr>
<td>&quot;Presidents’ Day&quot;</td>
<td>Tue., Feb. 19</td>
</tr>
<tr>
<td>Spring Graduation Application Deadline</td>
<td>Fri., Mar. 1</td>
</tr>
<tr>
<td>Preliminary Dissertation Deadline</td>
<td>Mon., Mar. 18</td>
</tr>
<tr>
<td>Spring Break</td>
<td>Mon.-Sat., Mar. 25-Mar. 30</td>
</tr>
<tr>
<td>Classes resume</td>
<td>Mon., Apr. 1</td>
</tr>
<tr>
<td>Preliminary Thesis Deadline</td>
<td>Mon., Apr. 1</td>
</tr>
<tr>
<td>Final Thesis/Dissertation Deadline</td>
<td>Mon., Apr. 15</td>
</tr>
<tr>
<td>Final instructional day</td>
<td>Sat., May 4</td>
</tr>
<tr>
<td>Final examination period</td>
<td>Mon.-Sat., May 6-May 11</td>
</tr>
<tr>
<td>Commencements</td>
<td>Fri.-Sun., May 10-12</td>
</tr>
<tr>
<td>School of Law Commencement</td>
<td>Sun., May 19</td>
</tr>
</tbody>
</table>

#### Summer Sessions 2013

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersession begins</td>
<td>Mon., May 20</td>
</tr>
<tr>
<td>&quot;Memorial Day&quot;</td>
<td>Mon., May 2</td>
</tr>
<tr>
<td>Summer Graduation Application Deadline</td>
<td>Sat., Jun. 1</td>
</tr>
<tr>
<td>Intersession ends</td>
<td>Fri., Jun. 7</td>
</tr>
<tr>
<td>Five Week I and Eight Week Sessions begin</td>
<td>Mon., Jun. 10</td>
</tr>
<tr>
<td>Preliminary Dissertation Deadline</td>
<td>Mon., June 24</td>
</tr>
<tr>
<td>&quot;Independence Day&quot;</td>
<td>Thu., Jul. 4</td>
</tr>
<tr>
<td>Preliminary Thesis Deadline</td>
<td>Mon., Jul. 8</td>
</tr>
<tr>
<td>Five Week I ends</td>
<td>Sat., Jul. 13</td>
</tr>
<tr>
<td>Five Week II begins</td>
<td>Mon., Jul. 15</td>
</tr>
<tr>
<td>Eight Week ends</td>
<td>Mon., Aug. 3</td>
</tr>
<tr>
<td>Five Week II ends</td>
<td>Sat., Aug. 17</td>
</tr>
<tr>
<td>Summer Commencement</td>
<td>Sat., Aug. 17</td>
</tr>
</tbody>
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**Inquiries**

Address inquiries concerning:

- Graduate study to the Graduate School, The University of Akron, OH 44325-2101. 330-972-7663.
- Student employment to the Career Center, The University of Akron, OH, 44325-4308. 330-972-7747.
- Athletics to the Athletic Director, The University of Akron, OH 44325-5201. 330-972-7080.
- Registration, records, graduation, scheduling, Ohio residency requirements, and military services to the Office of the Registrar, The University of Akron, OH 44325-6208. 330-972-8300.
- Undergraduate admissions information and campus tours to the Office of Admissions, The University of Akron, OH 44325-2001. 330-972-7077 or toll-free inside Ohio, 1-800-655-4884.
- The University switchboard number is 330-972-7111.

**University Closing Policy**

The 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 conditions necessitate closing or canceling classes at the entire University or any of its specific units. The president or designee will make a decision to close based on the recommendations from:

- University police, safety and facilities personnel, who will be checking the condition of campus sidewalks and parking lots.
- City and county law enforcement agencies, who will report on road conditions on highways and roads in areas surrounding the University.
- The Ohio State Patrol and County Sheriff, who may issue advisories related to weather.
- Additional sources as needed.

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 and on ZipLine at http://zipline.uakron.edu.
- **E-mail:** An e-mail 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/z-alert.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.

**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
Director, McNair Scholars Program
Dr. Heather E. Burton ........................................ 972-2135
Coordinator, Graduate Student Financial Aid
Mrs. Karen L. Caldwell ........................................ 972-5858
Student Services Counselor
Ms. Elizabeth Markovich Crutchley ........................................ 972-5858
Manager, Graduate Admissions
Ms. Theresa M. McCune ........................................ 972-8233
Student Services Counselor
Ms. Leanne McNicholas ........................................ 972-5169
Student Services Counselor
Mrs. Megan Richardson ........................................ 972-5296

Graduate School
World Wide Web Location

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

Colleges

Buchtel College of Arts and Sciences ........................................ 972-7880
College of Business Administration ........................................ 972-7041
College of Education ........................................ 972-6970
College of Engineering ........................................ 972-7816
College of Health Professions ........................................ 972-7552
College of Polymer Science and Polymer Engineering ........................................ 972-7500
NEOMED (Northeast Ohio Medical University) ........................................ 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

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
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 ........................................ 972-8638
Pan-African Culture and Research Center ........................................ 972-7030
Parking Services ........................................ 972-7213
Peer Counseling Program ........................................ 972-8288
Photocopying
DocuZip (Student Union) ........................................ 972-7870
Polsky Building ........................................ 972-2043
Registrar, Office of the University ........................................ 972-8300
Registration, records, graduation, scheduling, transcripts, enrollment and degree verification, Ohio residency, and military services ........................................ 972-6869
Residence Life and Housing ........................................ 972-7800
Student Engagement and Success, Vice President for ........................................ 972-7067
Student Judicial Affairs ........................................ 972-6380
Student Union
Information Center ........................................ 972-INFO (4636)
Reservation Line ........................................ 972-6869
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)
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 1867 and has grown to its current standing as a major, metropolitan-state-assisted university. Significant that the efforts, energy, and financial support of an Akron manufacturer of farm equipment, John R. Buchtel, were instrumental in persuading the Ohio Universalist Convention to build its college on a hill overlooking the town that stretched along the Ohio Canal. The grateful trustees responded by naming the school Buchtel College. It is also significant that during its first four decades, the struggling new institution had added to its efforts to survive by various local entrepreneurs who pioneered and prospered in such industries as cereals, clay products, matches, and rubber. Buchtel College’s emphasis on local rather than denominational interests became increasingly clear, and by 1913 those strong ties and the school’s financial situation allowed its trustees to transfer the institution and its assets to the city. For the next 50 years, The Municipal University of Akron received its principal support from city tax funds and swelled from an enrollment of 198 to nearly 10,000.

The growth of the college paralleled the remarkable expansion of the community itself. From 1910 to 1920, Akron was the fastest-growing city in the country, evolving from a thriving canal town of 7,000 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 automobiles — and the demand for inflatable rubber tires — changed the complexion of Akron forever.

Changes within the Municipal University’s curriculum reflected the strong interrelationship of town and gown. In 1914 a College of Engineering began instruction, and other professional schools followed: Education (1921), Business Administration (1953), Law (1959), Community and Technical College (now Summit College) (1964), Fine and Applied Arts (1967) (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 (1963). During World War II, University of Akron researchers helped fill a critical need in the U.S. war effort by contributing to the development of synthetic rubber. The University’s polymer programs have produced some of the world’s most able scientists and engineers, and today attract millions of dollars annually in research support, as well as top graduate students from around the world.

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

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

The University’s first doctoral degree was, appropriately enough, awarded in polymer chemistry in 1959, but master’s degrees were granted as early as 1882. The University of Akron now offers 17 doctoral degree programs and seven law degree programs as well as more than 100 master’s degree programs and options. The University offers undergraduate students a choice of more than 200 majors and areas of study leading to associate and bachelor’s degrees. Hundreds of nongrantee 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 15 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 151,000 and include scientists, engineers, artists, lawyers, educators, nurses, writers, business people, and other professionals at work in every state and throughout the world.

The 218-acre Akron campus, with more than 80 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 an easy driving distance and many accessible via public transportation. Arts venues on campus include Daum and Sandefur theatres, Guzzetta Recital Hall, The Emily Davis Gallery, and E.J. Thomas Performing Arts Hall, the flagship performance venue for the region. The critically acclaimed Akron Symphony Orchestra, Tuesday Musical 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 21 new buildings, completed 18 major additions, acquisitions and renovations, and created 34 acres of new green space.

For more than 142 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 unique in-and-out-of-the-classroom learning experience is on the future, for our students, our faculty and staff, our community, and our world.

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

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

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

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

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

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

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

Enabling student success will continue to be the hallmark of The University of Akron. We recognize, important, 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.

VISION 2020
In 2012, the University of Akron Board of Trustees gave its unanimous support to a new strategic plan called Vision 2020. The year 2020 is the 150th anniversary of the founding of The University of Akron, and the plan calls for bold initiatives and significant growth, including:

• Building on Charting the Course accomplishments, reach a $1 billion investment in student programs, faculty, research, campus and community.

• A more than 30 percent increase in enrollment from the current 30,000 to 40,000 learners, including growth of students in and out of state, international students, and e-learners.

• $200 million commitment to annual research expenditures, including hiring 160 new faculty and staff.

• Launching The Akron Experience, a new initiative that provides every student with a unique in-and-out-of-the-classroom learning experience to strengthen the connection between campus and community.
• New criteria for enrollment and targeted learning pathways for each student to increase retention, graduation, and job placement rates.

Our Mission - To ensure student success and leverage our region’s unique assets in the creation and application of research that benefits humankind.

Our Vision - To set a new standard for public research universities in adding economic value and enriching lives.

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, administrators, maintenance and service personnel, and everyone else whose work and dedication enables us to pursue our individual and collective academic goals.

Together we maintain an intellectual culture that is accessible, disciplined, free, safe, and committed to excellence. By our behavior with one another we endorse a culture of diversity, celebrating the uniqueness of the individual and developing our understanding and tolerance of differences in gender, ethnicity, age, spiritual belief, sexual orientation, and physical or mental potential. We take responsibility for sustaining a caring culture, nurturing growth and fulfillment in each of us, and in the larger communities of which we are a part. We insist on a culture of civility, united in our rejection of violence, coercion, deceit, or terrorism. We work to increase collaboration, cooperation, and consensus within rational dialogue characterized by mutual respect and consideration. Ours is a responsible culture. We expect each member of our community to carry out responsibly his or her duties for preserving the integrity, quality, and decency of our environment and our discourse.

Expectations and Responsibilities

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

Inside the Classroom

Inside the classroom, faculty are expected to respect the sanctity of the teaching/learning process by honoring this commitment to students in terms of time, fairness, and enthusiasm. It is the responsibility of faculty to set and enforce 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 or political affiliations, 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 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 the University community to express dissatisfaction with anyone who fails to meet the responsibility of civility and to request that they do so. In the event that cooperation cannot be attained, proper authorities must be involved to insist upon these minimum expectations. Only by campus-wide compliance to these expectations can we achieve a clear sense of our campus culture and, accordingly, a sense of mutual pride.

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

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

Additional Behavioral Expectations

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

ACCREDITATION

Accreditation assures that degrees are recognized and approved by select regional and national education associations, societies and councils. Accreditation serves two fundamental purposes: quality assurance and institutional and program improvement.

There are two types of accreditation of educational institutions: institutional accreditation and specialized accreditation. Institutional accreditation evaluates the entire institution and accredits it as a whole. The University of Akron has been approved by The Higher Learning Commission of The North Central Association of Colleges and Schools (230 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. 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 credit earned at a similarly accredited college or university. Degrees earned at the University are respected and sought after by prospective employers.

Institutional Accreditation:

The Higher Learning Commission of The North Central Association of Colleges and Schools

Specialized Accreditations:

AACSB International — Association to Advance Collegiate Schools of Business
Accreditation Board for Engineering and Technology
American Association for Family and Consumer Sciences
American Association of Marriage and Family Therapy (provisional)
American Association of Nurse Anesthesia — Council on Accreditation
American Dietetic Association
American Psychological Association
American Speech-Language-Hearing Association
Association of Collegiate Business Schools and Programs
Commission on Accreditation for Athletic Training Education (CAATE)
Commission on Collegiate Nursing Education
Committee on Allied Health Education and Accreditation of American Medical Association
Council for the Accreditation of Counseling and Related Educational Programs (provisional)
Council on Social Work Education
Foundation for Interior Design Education Research
International Fire Service Accreditation Congress
National Association of Schools of Art and Design
National Association of Schools of Dance
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration
National Certification Board of Pediatric Nurse Practitioners and Nurses
National Council for Accreditation of Teacher Education
National League of Nursing Accrediting Commission
Ohio Department of Education
Professional Society for Sales & Marketing Training

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

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

The University also holds membership in the following educational organizations:

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

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 218 acres and encompasses more than 80 buildings. Recent and continuing growth with new academic, administrative, and recreational facilities, 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, located at the corner of E. Mill and College streets, is a teaching facility that serves the region’s academic and industrial needs by offering a wide variety of non-credit and rubber training courses.

**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, 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 300-yard Astro Track, 300-meter six-lane Mondo track, 8,000-square-foot strength and condition center, batting cages, indoor golf training facility, locker rooms, sports medicine and rehabilitation center and spectator seating for 1,200.

**Auburn Science and Engineering Center.** Named for Dr. Norman P. Auburn, 10th president of the University, this complex is one of the largest academic buildings in the state. This complex houses the College of Engineering Dean’s office, the Engineering Co-op Office; Mechanical, Electrical, and Civil Engineering; as well as the Science and 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 II). The administrative center of campus, Buchtel Hall was completely restored in 1973 following a devastating fire in 1971. It is the University’s link with its predecessor, Buchtel College. It provides office space for numerous administrative officials of the University, including the Office of the President.

**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 Accountancy, and the department of Finance, Marketing, and Management.

**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. Banker 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 1965 to 1975, this cultural center was formally opened in 1973. Designed to accommodate concerts, opera, ballet, and theater productions, the hall is a masterpiece in architecture, acoustics, and creative mechanisms. It stands at the corner of University Avenue and Hill Street.

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

**Mary Gladwin Hall.** Housing the School 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 School 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 School of Dance, Theater and Administration. Offices and areas for 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 contains an intercollegiate basketball and volleyball arena with seating for 5,500. The facility also serves as a concert and special event venue, and houses an indoor walking/jogging track, physical education laboratories, 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. Knights Chemical Laboratory. This complex is named in honor of Dr. Charles M. Knight, who taught the first courses in rubber chemistry at Buchtel College as early as 1909. Opened in 1979, the building houses the Department of Chemistry and features many innovative laboratories with the most sophisticated safety equipment, as well as classrooms and faculty and administrative offices.

**Kolbe Hall.** Named for the first president of the Municipal University of Akron, this building was remodeled for the School of Communication. Additions to and remodeled space within the building have provided space for faculty and staff offices, TV studio areas, WZIP-FM radio station, computer labs and classrooms. The building also houses the Paul A. Daum Health Center.

**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 Grille Room is open for lunch between 11:30 a.m. and 2 p.m. Business and departmental functions, banquets, receptions, and parties can be scheduled by contacting the Martin University Center.

**McDowell Law Center.** Named for C. Blake McDowell, prominent local attorney, alumnus, and benefactor of the University, the center houses the School of Law. Opened in 1973, it provides space for the law library, classrooms, moot courtroom, appellate-review office, seminar rooms, and faculty offices. An addition provides library 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.

**National Polymer Innovation Center.** Located at 240 South Forge Street this building houses the Austen BioInnovation Institute of Akron, Center for BioMaterials and Medicine and Polymer Engineering.

**Ocasek Natatorium.** Named for former Ohio State Senator, Oliver Ocasek, the natatorium houses an Olympic-size 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, and Anthropology and Classical Studies.

**Olson Research Center.** This facility, adjacent to the 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, including equipment and laboratories.

**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, the Office of Research Services and Sponsored Programs, the Institute of Bioscience and Social Research, and Taylor Institute for Direct Marketing. A University food service facility, Starbucks, and a campus bookstore are in operation on the High Street level (third floor).

**Polymer Engineering Academic Center.** This 32,000 sq. ft. facility houses the student, faculty, and administrative offices of the Department of Polymer Engineering.

**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.

**Schrank Hall.** Named for Harry P. Schrank, longtime member and chairman of The University of Akron’s Board of Trustees. This complex, which adjoins Auburn Sci-
ence and Engineering Center, is composed of two academic structures and a park

ing deck. Schrank Hall North contains space for Adult Focus, Biology, College of Engi

neering, Computer-Based Assessment and Evaluation, Summit College and Women’s Studies. Schrank Hall South contains space for the School of Family and Consumer Science, in addition to Summit College’s Engi

neering and Science Technology Department.

Simmons Hall. This building, located at 277 East Buchtel Avenue, is occupied by departments of Student Engagement and Success, University College, and Business and Finance. Major services provided in this building are the Office of Accessibility, Undergraduate Admissions, Career Center, Counseling Center, Student Financial Aid, Office of the University Registrar, University College, New Student Orientation, and Business and Finance (Student Financial Aid).

Stitzlein Alumni Association Center. Named for Harry P. and Rainey G. Stitzlein, this recently remodeled building, north of East Buchtel Ave. at Fir Hill, houses the Office of The Alumni Association.

Student Recreation and Wellness Center. This facility 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, Off-Campus Student Services, Student Judicial Affairs, Computer Solutions — the computer technology store, DocuZip copy center, bank, Information Center, Starbucks, Zip Card office and Barnes and Noble Bookstore. Visit our Web site at http://www.uakron.edu/studentunion.

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 labs, and a computer lab and classroom.

Zook Hall. Named to honor George F. Zook, president of the University from 1925 to 1933, this Buchtel Common facility houses the College of Education offices of the Dean, Associate Dean for Academic Affairs and Student Services, 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 technologically age, for up-to-date facilities and equipment. Many of these facilities are described below.

Buchtel College of Arts and Sciences

The Department of Anthropology and Classical Studies has a Macintosh-based computer lab which gives easy student access to a collection of several thousand original photographs and plans of Mediterranean buildings, and art and 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/archaeology-clasics.

The Department of Biology houses greenhouses, controlled-environment chambers, an animal research facility, a molecular biology laboratory, a variety of research center 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/biology.

The Department of Chemistry is located in the Knight Chemical Laboratory build-

ing. The department is home to state-of-the-art facilities for the spectroscopic identifi-
cation and characterization of compounds. These include the centers for Laser spectroscopy, Mass spectrometry, Nuclear Magnetic Resonance spectroscopy, and X-ray crystallography. Students have access to the department’s computer lab for internet and Web assignments, data analysis, computations, word-processing and printing. The Chemistry laboratory has 1,100 items, including chemicals, glassware, and apparatus. Additional information about the department, faculty, and programs can be found on the department Web site located at www.uakron.edu/chemistry.

The School of Communication features a television classroom/studio and a wide complement of supporting audio and video equipment, including graphics gener-
ators 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 provides several media-related co-curricular activities, including the nationally rated student-run radio station, WZIP, the Emmy Award winning television station, Z-TV, the nationally ranked speech and debate team, and the student newspaper, The Buchtelite. Additional information about the school, its faculty, and programs is available at www.uakron.edu/schcomm.

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 lab-

oratories maintained in and by the department. In addition to a PC lab, a UNIX lab and a Graphics Research laboratory, the department has a cluster computer available for research and instruction. Our facilities are state-of-the-art and provide a broad range of experi-

ence that is attractive to potential employers. Additional information on the department is available at www.uakron.edu/computer-science.

The School of Dance, Theatre, and Arts Administration is located in Guzzetta Hall. The School offers graduate programs in Theatre and Arts Administration. The state-of-the-art facility includes administrative and faculty offices, scene and costume shops, technology enhanced classrooms, including a design lab/studio. Addi-

tional information about the school, its faculty, and programs is available at www3.uakron.edu/tdta.

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 analytic. The depart-

ment has a computer laboratory for faculty and students. It is equipped with the latest equipment running in a Windows environment. In addition, the department has a vari-

ety of software, including economic tutorials, word processing programs and SAS. The lab is also equipped with a laser printer. Network access allows students to search for books, journal articles, the latest economic data, etc., remotely from either Ohio Link or the World Wide Web. The lab is located in close proximity to the faculty offices which facilitates communication between the faculty and student. The faculty enhances the students’ edu-

cational experiences. Additional information about the department, the faculty, and the programs is available on the department Web site at www.uakron.edu/economics.

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 classrooms. Students have the opportunity to submit written work for literary prizes every spring as well as apply for the 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 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 three graduate programs. Nine laboratories, including a computer cen-

ter, are available for authentic student learning experiences. All programs provide

computer laboratories for faculty and students. Economics as a discipline has become increasingly analyt-

ic. The department has a computer laboratory for faculty and students. It is equipped with the latest equip-
pment running in a Windows environment. In addition, the department has a vari-

ety of software, including economic tutorials, word processing programs and SAS. The lab is also equipped with a laser printer. Network access allows students to search for books, journal articles, the latest economic data, etc., remotely from either Ohio Link or the World Wide Web. The lab is located in close proximity to the faculty offices which facilitates communication between the faculty and student. The faculty enhances the students’ edu-

cational experiences. Additional information about the department, the faculty, and the programs is available on the department Web site at www.uakron.edu/economics.

The Department of History occupies one wing on the second floor of the College of Arts and Sciences Building. This office complex includes a multi-media room for Web-based computer work in close proximity to faculty offices, enhancing students-faculty interaction. The endowed interdisciplinary Sally A. Miller Humanities Center is housed within the department and offers fellowships, sponsors speakers and runs pedagogi-

cal workshops. The online Journal of Northeast Ohio History, which offers both edito-

rial experience and opportunities of scholarly publication, has its office in the

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The Department of 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.uakron.edu/math provides updated information about the department, its facilities, faculty, and programs.

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

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, rehearsal, and additional information about the school’s facilities, its faculty, and programs is available on the internet at www.uakron.edu/music.

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 Political Science is located on the second floor of Olin Hall. The department maintains an instructional computer lab consistently used by students as they analyze real world political conflicts. The department also houses the facilities 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/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. Student support includes 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. This lab contains 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 department include: research areas for individual computer research and for small group behavior research, and a Test Room where current psychological research paradigms 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 methods, and computer applications, and computer-taught in the lab. Additional information on the department is available on the internet at http://www.uakron.edu/paus.

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, providing many current professional journals, is open for students’ use. 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 108. 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 programs is available on the internet at http://www.uakron.edu/statistics.

College of Business Administration

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

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 environment for computer-savvy students to develop knowledge and skills using information from a wide range of sources and presenting it simultaneously on multiple screens. It features five workstations with computer access to Internet financial databases, financial news sources (e.g. CNBC), in-house databases such as COMPSTAT and CRSP, and only slightly delayed trading data. A sixth projector/screen is linked to an instructor’s station.

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

The Benjamin and Nancy Suarez Applied Marketing Research Laboratories, located on the fourth floor of the Polsky Building, feature a Cognitive Research Laboratory with state-of-the-art technologies focusing on techniques such as eye tracking and brain-wave and physiological analysis; a Marketing Intelligence Laboratory with eight workstations and two teamwork stations where students and faculty can develop comprehensive market intelligence reports; an Experiential Research Laboratory where students and businesses use techniques such as facial coding software to test the effectiveness of various types of advertising; and the Suarez in the Square Classroom, an innovative class space built in an amphitheater format.

Offices of the college’s 15 active student organizations are located in the James Dunlap Student Organization Office Suite just off the atrium lobby. Student Organizations offers opportunities for development of social, professional, leadership, and networking skills through interaction with business professionals and other students. Additional information about the college, its faculty, and its programs is available on the internet at www.uakron.edu/cba/cba-home/index.dot.

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 specializations in College Counseling and Marriage and Family Counseling), 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 Class-
room 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/education/academic-programs/counseling.

The Department of Curricular and Instructional Studies offers graduate programs leading to the Ph.D in Secondary or 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, and family consumer sciences (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/education/academic-programs/CIS.

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, higher education administration, and teaching and training technical professionals (formerly postsecondary technical education). 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 problems, theses, and dissertations of students in their degree programs. Additional information about the department, its faculty, and programs is available online at www.uakron.edu/education/academic-programs/EF.

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. There are laboratories for the study of exercise physiology, anatomy, 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 Infusion Stadium (classrooms, the main gym, an indoor running track, a multi-purpose room, and four teaching station areas), Student Recreation and Wellness Center (cardiovascular fitness and weight training areas) Athletic Field House (sports medicine equipment), Oceakse Nataatorium (swimming pool, racquetball courts, and cardiovascular fitness and weight training equipment), and Lee Jackson Field (an outdoor running track). Visit the department’s website at www.uakron.edu/education/academic-programs/assew.

The Masculloskeletal 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, teleoperation, biofeedback therapy and minimally invasive surgery. The Rehabilitation Engineering Laboratory is equipped to conduct collaborative research on problems related to stroke, head trauma, and arthritis patients. The Biomedical Instrumentation Laboratory has continuous wave and Doppler ultrasonic 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 formulation, development and analysis of biomaterials, including medical applications for nanotechnology. The tissue culture lab has equipment to investigate the interactions of cells with biomaterials with the goal of developing tissue engineering scaffolds for developing therapies in regenerative medicine.

The Orthopaedics Engineering Research Laboratory has equipment designed to apply physiologic joint movements, including a custom built spine flexibility testing system and a KUKA six-degree of freedom serial robot arm with an ATI Delta six-axis load cell. It also features an optoelectronic camera system, the Optotrak Certus, for measurement of three-dimensional kinematics of multiple rigid bodies and National Instruments data acquisition equipment.

The Biostereometrics Laboratory is located in Whitty 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 Lalexargon-ion laser, a vibration isolated optical bench, a Brookhaven correlation and probability analyzer, FTIR-Raman, TGA, and an IBM PC-based data acquisition system. The Biochemical and Environmental Bioengineering Laboratory is a satellite center of the Ohio Bioprocessing Research Consortium, housing a state-of-the-art HPLC-MS with additional ultramicroscopy, UVVIS, and IR detectors. The labs are well equipped with several bioreactor assemblies, Sorval RC-SC refrigerated super centrifuge, Perkin-Elmer UVVIS spectrometer and LS-50Buluminoscope spectrophotometer, and on-line NADP(-) H fluorometers. The Biomaterials Laboratory is available for polymer synthesis and storage including a nitrogen hood, Stoeckles separation columns, a bath, a dry bath, a vacuum oven, a Buch rotary evaporator, and a Labconco lyophilizer.

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

The Multiphase and Solids Processing Laboratory is equipped to do research in 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 Master Test to measure air permeability of filter media, a Hiac Royco BR5 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, Barty Reactor, 1-liter stirred Reactor, dynamic light scattering technique, mechanical testing and high temperature GPC. The Thin Film Laboratory is equipped with plasma systems, thermal chemical vapor deposition, and in situ microanalysis.

Additional information about the department, its faculty, and programs is available on the internet at www.uakron.edu/engineering/BME.

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 Department of Civil Engineering
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 laboratories a tilting flume enables the student to visualize water flow in streams and rivers. A pressurized pipe module is used to study frictional losses in different size pipes. Instructional laboratories introduce several hydraulic software tools such as FLUENT for finite element analysis 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/distance detection systems to provide traffic data for systems operation and analysis. The global positioning system tracks the position of probe vehicles on transportation networks 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 www.uakron.edu/engineering/CES.

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, control, computers, energy conversion, embedded systems interfacing, power electronics, and electromagnetics/microwaves. Laboratories follow instruction to help the student apply the material learned in class.

In the circuits laboratory, students learn the basics of circuit design, instrumentation, and measurements. The laboratory is equipped with digital oscilloscopes, digital voltmeters/meters, 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 introduces the student to solid-state power electronics and control of power electronic devices. The laboratory contains 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 electromagnetic/microwave laboratory uses basic experiments in transmission lines, waveguides and antennae to teach the principles involved. In addition to the basic equipment, the laboratory has a shielded room for specialized 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 www.uakron.edu/engineering/ECE.

The Department of Mechanical Engineering is located in the Auburn Science and Engineering Center. There are eight laboratories in the Department of Mechanical Engineering. The Thermal and Fluid Science Laboratory has internal combustion engines, a supersonic wind tunnel, a subsonic wind tunnel, and a water tunnel. The Heat Transfer Laboratory has temperature measurements systems, a gas laser, and a W shape. 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 universal universal end frame for performing static, quasistatic, cyclic and dynamic tests on a spectrum of engineering materials and several types of hardness testing equipment. The Parker Hannifin Motion and Control Laboratory has hydraulic and pneumatic servo systems as well as serval pilot systems controlled by PLCs and computer controllers. The Experimental Mechanics Laboratory has photoelastic strain measuring equipment and associated facilities, coupled with a complete range of strain gage instrumentation for both static and dynamic measurements. The Mechanical Design Laboratory has several major software packages for computer-aided design connected to the College’s Engineering Computer Network Facility (ECNF). The System Dynamics and Controls Laboratory is composed of several microprocessors, analog computers, and digital controllers, as well as equipment for process control and robotics. The Micro Electro Mechanical Systems (MEMS) Laboratory has instrumentation to build and characterize MEMS devices.

The Vibration and Acoustics Laboratory has electromechanical shakers, sound pressure measurement 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 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 www.uakron.edu/engineering/ME.

College of Health Professions

The College of Health Professions opened in 2012. The college includes the schools of nursing, nutrition and dietetics, social work, and speech-language pathology and audiology and will focus on preparing students to excel as professionals in an evolving health care environment. Highly collaborative and interdisciplinary, the new college will be a model for health education and research in this region and beyond.

The School of Nursing located in Mary Gladwin Hall, provides professional nursing education at the master’s and doctoral levels. The school is approved by the Ohio Board of Nursing and the master’s program is accredited by the Commission on Collegiate Nursing Education. Academic advising services are available to prospective students. The school contains a state-of-the-art Learning Resource Center, including a computer laboratory, as well as a library for nursing students. The Nursing Center for Community Health within the school is closely linked to the Akron community and is used by faculty and students for community service, practice, education and research. The school also has a Center for Gerontological Health Nursing and Advocacy whose primary goal is to improve the healthcare and quality of life for elderly people.

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 nursing, and adolescent health nursing, and nurse anesthesia. Postmasters 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.

Most recently the School of Nursing has been approved to offer a Professional Doctor of Nursing Practice.

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

The School of Nutrition and Dietetics is comprised of experienced, dynamic faculty with expertise in community nutrition, sports and wellness nutrition, and nutritional therapy. The school offers a master’s degree program in Nutrition. The purpose of the program is to enhance the educational opportunities for individuals interested in nutrition research. Additional information on the school is available on the internet at http://www.uakron.edu/ncs/nutritiondietetics.

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. Addi- tional information about the school, its faculty, and programs is available on the internet at www.uakron.edu/socialwork.

The School of Speech-Language Pathology and Audiology provides prepro- fessional and professional training to students who wish to become speech-lang- uage 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. The School degree program is housed in the School of Speech-Language Pathology and Audiology. Additional information about the school, its faculty, and programs is available on the internet at www.uakron.edu/ssspa.

The 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 students and engineering majors. A minor, which emphasizes polymer engineering, has been developed by the College of Engineering through the Departments 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 pro- gram leading to a degree in Mechanical Polymer Engineering, approved by the facul- ties of the colleges of Engineering and Polymer Science and Polymer Engineering was started in fall 1995.

The facilities of the Department of Polymer Science and the Maurice Morton Insti- tute of Polymer Science (MMIPS) support fundamental and applied research in poly- mer chemistry, polymer physics, and many aspects of polymer behavior. There are extensive capabilities in polymer synthesis and characterization, which emphasize polymer engineering 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 computational facilities 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/cpsa/DPSS.

The Department of Polymer Engineering and Institute of Polymer Engineering maintain a broad-based range, state-of-the-art processing, structural, and rheologi- cal/mechanical characterization facilities to meet the needs of research and develop- ment on materials for energy, environment and health. Processing instruments are capable of handling nanomaterials, biomaterials and conventional polymer products from scales of parts to hundreds of kilograms. These include unique tape-casting facilities for nano- and bio-materials processing, thin films, inkjet printing and lithogra- phy. The blending and compounding facilities include five twin-screw extruders, a microscale compounder and seven internal mixers with flow visualization capabili- ties. There are also eight single-screw extrusion lines in ultrasonic and sound wave and robotic transfer systems for plastics and rubber. Tubular films and cast film exten- sion capabilities, as well as two biaxial film stretchers, are also available. The mold- ing facilities include five machines with screw injection molding capabilities, compression molding and filament winding for composites. The department also has capabilities for solution casting and electro-spinning. Characterization capabilities includes scanning electron and atomic force microscopy; X-ray diffraction (including a rotating anode X-ray generator); Fourier transform infrared, small angle light scat- tering, optical microscopy, radiography, differential scanning calorimetry, thermo- gravimetric 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://poly-eng.uakron.edu.

Positioned in the Rubber City, where polymers are the focus of innovation and tech- nology, the Akron Polymer Training Center (APTC) is the training division of the College of Polymer Science and Polymer Engineering. Poised 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 classrooms, two polymer-processing laboratories, and a laboratory devoted to chem- ical measurements and instrumentation.

The APTC serves the region’s academic and industrial needs by offering a wide vari- ety of hands-on, non-credit courses as well as customized training. Since its open- ing 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-mate- rials and polymers for bio-medical applications in anticipation of collaboration with the newly formed BioInnovation Institute at Akron. With a diverse set of course offer- ings that serve our industry, the APTC is the largest polymer training center in the United States.

The center offers non-credit, short courses in the area of rubber chemistry, mixing and compounding. In addition, it presents a full complement of hands-on plastics pro- gramming designed to enhance the skills of incumbent workers in the plastics pro- cessing 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 Poly- mer 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 engineering, polymer engineering, and Science, Technology and Engineer- ing, and Mathematics (STEM) education by supporting initiatives in P-16 education and other distributeive education ventures. Providing consulting and training services to the polymer industry worldwide, the Akron Polymer Training Center is the workforce develop- ment division of the Akron Global Polymer Academy. Visit the Academy’s website at http://www.uapga.uakron.edu for additional information.

University Libraries

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

Library services include reference and research assistance, and user education. Mate- rials can be borrowed from the University Libraries through the circulation department or obtained from other libraries through the OhioLINK network or other resource-sharing arrangements. The University Libraries’ collections contain more than 3 million items: books, periodicals, government documents, curricular materials, microforms, maps, audio-visual materials, and archival documents. The library receives more than 100,000 books, periodicals, and other items each year.

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, photocopy services, and equipment for use in making paper copies from microforms are avail- able 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 cen- tralized collection of media hardware and audio-visual resources for student and fac- ulty use. It also has a collection of instructional materials in various media formats (filmstrips, slides, etc) to supplement classroom instruction. Audio Visual Services also develops training, and maintains technology-enhanced general purpose classrooms, offering permanent in-room projection, sound reinforcement and a sophisticated media retrieval system. Additional information about the library 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 tech- nology 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 infra- structure 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 use of voice, video and data networks into a sin- gle digital network environment.

Distributed Technology Services provides technology and software support services for the campus community.
Computer Labs: A combination of 400 Dell, Apple, and iPad devices are available for two- and four-hour loans in Bierce Library, the Science and Technology Library, Circulation Desk, and the Student Union information desk. The wireless laptops can be used anywhere within the building to access the internet, to get mail, or to do class assignments. A general purpose computer lab of 20 Windows Desktop PCs for students is located in the College of Arts & Sciences building, Room 103B. Both the wireless and general purpose labs have the same productivity tools such as Microsoft Office, SPSS and SAS. All computer users have internet and e-mail capabilities.

Virtual Computer Labs: 24/7/365 online access to selected software. Log into ZipLine and click on UA Virtual Lab.

Internet Kiosks: 124 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. CRS will install University-approved software and assist in installing hardware and peripherals, which will enable you to connect to the University computer network and the internet. CRS will also provide hardware diagnostics, software diagnostics (within reason) and basic troubleshooting. CRS will not install or troubleshoot any software or hardware relating to games. If a hardware problem is found or suspected, our student technicians will give you an idea as to where the problem lies. CRS 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, Vista, 7
- Microsoft Publisher
- Adobe Acrobat Reader
- Microsoft Security Essentials

**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.

Computer Repair Service information can be found at: http://www.uakron.edu/dts/computer-repair-service.dot

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. A Walk-in Support Center combined with laptop checkout area is conveniently located in Bierce Library.

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. – 10 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. – 10 p.m.
Friday: 8 a.m. – 9 p.m.
Saturday: 10 a.m. – 4 p.m.
Sunday: 1 p.m. – 10 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 (ZipLine), and Springboard! For more information, visit Software Training Service’s Web site at http://www.uakron.edu/training.

To access tutorials for hundreds of software applications log into ZipLine, click the Student tab, then click the Atomic Learning link located under the Computer Software Help heading.

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
- Score tests completed on bubble sheets.
- Administer placement testing for incoming university students.

The testing lab is located in Schwank Hall North, Room 152. For additional information please 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.
- 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.

UA’s computer network, named UAnet, provides access to:
- ZipLINK – UA’s library catalog
- OhioLINK – the library catalogs of all State of Ohio universities and colleges
- Electronic Mail (e-mail)
- The Internet
- UAnet’s Web pages
- Network file storage and printing

RESEARCH CENTERS AND INSTITUTES

The University Research Council is responsible for encouraging, supporting, and making recommendations pertaining to sponsored and contractual research carried out at the University’s departments, schools, centers, and institutes. The council consists of the Vice President for Research and Dean of the Graduate School, the Director of Research Services and Sponsored Programs, representatives of the
Faculty Senate, various college deans and institute directors, and General Counsel. Sponsored research activities on campus are coordinated by the Vice President for Research and Dean of the Graduate School and the Director of Research Services and Sponsored Programs.

**Akron Global Polymer Academy**
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 distributive education ventures. Providing consulting and training services to the polymer industry world wide, the Akron Polymer Training Center is the Workforce Development division of the Akron Global Polymer Academy.

**Ray C. Bliss Institute of Applied Politics**
John C. Green, Ph.D., Director

The Ray C. Bliss Institute of Applied Politics is a non-partisan, public education and research adjunct of The University of Akron and its Department of Political Science. The broad purposes of the institute, in keeping with the career of its namesake, Ray C. Bliss, are: to give all citizens, and particularly students, an opportunity to learn how to become active and competent in political life; to help maintain a tradition of ethical public service in politics; to foster useful relationships between applied politics and political science; to promote public comprehension of political organizations and the requirements for their effectiveness; and to improve understanding of continuity and change in American political institutions.

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

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

In addition to its research and educational functions, the institute provides a research service to local hospitals and industry, as well as to private and government agencies. The premise for this program is that the combined resources of the University, Northeast Ohio Medical University, 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 Northeast Ohio Medical University, 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 hundreds of companies. Industrial clients of all sizes gain access to top researchers, knowledge bases, and advanced equipment. With a full-time professional staff, the APRC is dedicated to providing timely and reliable contractual technical services for industrial and government clients. Key areas of technical service include: polymer characterization, additive identification, defect analysis, thermal analysis, dynamic mechanical thermal analysis (RPA, DMTA), chromatography and spectroscopy.

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

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

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

For more information, contact the office, 202 Olin Hall, (330) 972-5855, wlyons@uakron.edu, or www.uakron.edu/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.

**Center for Emergency Management and Homeland Security Policy Research**
Robert M. Schwartz, Ph.D., Director

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. This 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 sponsored, or in other ways supported, activities appropriate to understanding the Earth system and maintaining a quality environment for humanity.

The center offers both undergraduate and graduate certificate programs. By enrolling in selected courses outside of their major field of study, students receive the broad training required to address environmental concerns. The center also coordinates special forums, workshops, and seminars that address major issues.

**Center for Family Studies**
Pamela Schulze, 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 constituents.

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, Divorce Mediation, and Court-Held Mediation. 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 North-east 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
Lisa Lenhart, Ph.D., Director

The Center for Literacy furthers the mission of both the University of Akron and its College of Education and the development of a variety of programs that support development of expertise and dissemination of knowledge about language learning. The Center brings preservice, in-service, 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/education/community-engagement/literacy.

Center for Organizational Development
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 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 of Bioscience and Social Research (IBSR), 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 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 IBSR, as well as upon faculty and doctoral students from the Buchtel College of Arts and Sciences.

Center for Statistical Consulting
Chand Midha, Ph.D., Director
The mission of the Center for Statistical Consulting in the Department of Statistics is to provide the university community and the community at large with professional assistance in the design and analysis of statistical problems for theses, dissertations, and research. The office is located in the College of Arts and Sciences Building, Room 118A. When requesting statistical consulting refer to the Center’s website at http://www.uakron.edu/statistics/about-us/, 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
Bridget A. Ford, Ph.D., Director
The Center for Urban and Higher Education is an education and research unit within the College of Education with the broad purpose of improving student learning pre-K through higher education. CUHE serves both the University and the community by building and sustaining collaborative partnerships among practitioners, faculty, students, and community leaders. CUHE’s urban education institutes, professional development workshops and trainings, and research initiatives provide the frameworks for innovative collaborative services. The Center is located in Quaker Square 232 and 232a. For more information and when requesting services, please visit the Center’s website at www.cuhe.uakron.edu or via e-mail at cuhe1@uakron.edu or call (330) 972-8183.

English Language Institute
Established in 1979, the English Language Institute (ELI), part of Buchtel College of Arts and Sciences, offers a program 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-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 its instructional program, the ELI administers the University of Akron Developed English Proficiency Test (the U-ADEPT), which assesses the speaking ability of prospective international teaching assistants at UA and determines their readiness to provide classroom-related services in their graduate departments. The ELI serves as a resource on issues relating to language proficiency for University faculty, staff, and students as well as for members of the local community. For more information, visit the ELI web site at www.uakron.edu/eli, e-mail eli@uakron.edu, or call 330-972-7544.

Fisher Institute for Professional Selling
Chris Plouffe, Ph.D., Director
Established through a gift from Ronald and Diane Fisher in 1992, the Ronald R. and Diane C. Fisher Institute for Professional Selling has enabled The University of Akron to establish one of only 13 certified, professional sales programs in the world. It is currently number three in the United States and Canada.

The mission of the Fisher Institute for Professional Selling is (1) to enhance the image of the sales profession and to promote professional selling and sales management as rewarding lifelong careers; (2) to provide world-class, high quality excellence in sales education through our sales major, minor, and certificate programs; (3) to forge strong partnerships with the business community by providing them with top talent and outstanding training and consulting to their sales executives and their business needs; and (4) to conduct research that advances the field of sales.

The sales function generates the revenue that enables the rest of the corporation to operate. Jobs are abundant in the field of sales. Current placement is 100% (compared to 37% in all other majors).

Visit the website at http://www.uakron.edu/cba/fisher for more information.
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 practice both within the University’s curriculum and throughout the business community.

The Institute coordinates both credit and noncredit programs in international business as the undergraduate and graduate levels. The Institute also offers short courses and seminars to assist in improving international competitiveness of area organizations. With a focus on providing to our students holistic academic experience with significant global learning opportunities, the Institute has been an integral component of the College since its inception.

Institute of Global Business

Akhilesh Chandra, Ph.D., Director

The University of Akron received special grant from the State of Ohio to expand its offerings of undergraduate and graduate degree programs in international business. As a result of the State grant the Institute for Global Business (IGB) was established in 1996 as a academic unit within the College of Business Administration. The mission of the Institute is to educate students with requisite skills and preparation to assume leadership roles in the global business model.

The Institute coordinates both credit and noncredit programs in international business as the undergraduate and graduate levels. The Institute also offers short courses and seminars to assist in improving international competitiveness of area organizations. With a focus on providing to our students holistic academic experience with significant global learning opportunities, the Institute has been an integral component of the College since its inception.

Institute of Bioscience and Social Research

Joseph Wilder, Ph.D., Director

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

The Institute of Bioscience and Social Policy (IBSR), 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. IBSR values and encourages a multidisciplinary approach to research. IBSR offers graduate students an opportunity to work and learn from some of the top social science researchers in the country.

IBSR 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 $4 million in grants and contracts. Research staff members publish project results, give presentations locally, nationally, internationally, and belong to more than 60 professional organizations.

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

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

Institute of Polymer Science and Polymer Engineering

Alamgir Karim, 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, FTR, UV-Vis, X-ray, AFM, contact angle goniometry), 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. The University of Akron National Science Foundation-National Center for Research in Science and Engineering (NSF-REU) program offers undergraduate research opportunities in polymer science and engineering. The NSF-REU program is a competitive program that provides undergraduate students with the opportunity to work on research projects in a scientific discipline.

Institute for Teaching and Learning

Helen Qammar, Ph.D., Director

Mission

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

The ITL’s Responsibilities

• Consulting with colleges, departments, and individual faculty on teaching, learning, evaluation, and assessment issues
• Assisting faculty with service learning and undergraduate research experiences
• Developing and providing targeted professional development activities, information-gathering and sharing
• Assisting faculty with effective course design, implementation, and assessment of learning
• Providing information, advice, and leadership on teaching and learning matters
• Providing leadership and support for research on the scholarship of teaching and learning, service learning, pedagogy, and inclusive excellence

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

Microscale Physicochemical Engineering Center (MPEC)

George G. Chase, Ph.D., Director

The Microscale Physicochemical Engineering Center (MPEC) was established in 1996 by faculty with a common research interest in materials composed of very small particles and fibers. These particles and fibers can be used in applications including heterogeneous catalysis, fluid/solid separations, paper/pulp processing, soil remediation, wastewater decontamination, and solid transport.

The unique feature of MPEC is the ability to form multi-disciplinary teams of faculty and graduate students to solve critical 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 physicochemical engineering.
**Nursing 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**

Evelyn Taylor, MS, RD, LD, Director

The University of Akron Nutrition Center is a comprehensive 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 faculty, staff, students and the community, provides nutrition services and conducts research in chronic disease treatment, wellness and disease prevention, nutrition information technology, sports nutrition, food safety and sanitation, and community nutrition.

**Taylor Institute for Direct Marketing**

Kathleen J. Kennedy, Executive Director
Michael Kormushoff, Director

The Taylor Institute for Direct Marketing is an educational and research organization focused on Direct Interactive Marketing at The University of Akron, College of Business Administration, on the fifth floor of the Polsky Building.

The Taylor Institute offers two Direct Interactive degrees: a Master of Business Administration (MBA) with a concentration in Direct Interactive Marketing and an undergraduate Advanced Marketing Minor in Direct Interactive Marketing which is available to Marketing and IT Management majors. The Taylor Institute is home to a wide range of marketing courses that focus on emerging direct interactive marketing trends encompassing e-Commerce, Interactive Marketing, Social Media, Integrated Marketing Communications, Marketing Management, Marketing Research, and Marketing Analytics.

In addition to academic programs, The Taylor Institute provides University of Akron students with real-world learning experiences in working on direct interactive projects for clients, businesses, and organizations.

**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 charted 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 Cuyahoga Valley 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. For more information contact Peter Rinaldi at (330) 972-6990 or peterinaldi@uakron.edu or visit our website at http://www.uakron.edu/chemistry/magnet

**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 Engagement and Success**

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

**Testing Services**

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

**Outreach and Consulting Service**

- The Center regularly provides speakers for classes, residence halls, student organizations, and administrative offices. Consultation is available for emergency and crisis situations.
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 outreach programs are provided throughout the campus community which include a wide variety of career seminars, 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 meeting their academic and personal goals by addressing their health care concerns by providing quality, cost-effective, culturally competent, and compassionate health care and health education.

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 for medical services at the hospital.

Student Health and Accident Insurance, designed specifically for students, is available to students enrolled for six or more credit hours. The student insurance provides coverage for such items as hospitalization, 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.leonardisurance.com.

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

Student Services Center

The Student Services Center provides a single location to assist students with services relating to registration, financial aid, and student accounts. These services include, but are not limited to, adding/dropping classes, reviewing/collecting financial aid documents, explaining tuition and fees charges, and much more.

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) 972-7574 (TDD), see our Web site at www.uakron.edu/access, email access@uakron.edu, or visit Simmons Hall Room 105.

Center for Child Development

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

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

A summer program is also offered for school-aged children. This program is offered 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. 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, Ohio Burger Company, 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 Student Union 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 organization, on-campus events, and the Roo 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) 972-8689 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.

Off-Campus Student Services

Off-Campus Student Services resource center and administrative offices are located on the first floor of the Student Union. The center provides up-to-date information on apartments and housing around town and transportation options to get to campus including carpools. Educational programs are designed by the center to meet the needs of students living off campus. Much of the general information is posted to the website at www.uakron.edu/offcampus. For additional information students may stop in for assistance during posted hours or reach the center by phone at (330) 972-8990.

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 procedure and respect the rights of the individuals involved. By becoming familiar with the provisions 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) 972-6380.
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 Engagement and Success is responsible for security and safety policies governing residence halls, fraternities, and sororities and for teaching students about security and crime prevention.

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

A safe campus can be achieved only with the cooperation of the entire campus community. The University hopes students will read and become familiar with this material and be responsible for their own safety and the 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 44 police officers are fully commissioned by the State of Ohio and have full law enforcement authority identical to municipal police officers and sheriff’s deputies. The University 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 2311. 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 2 a.m. during the fall and spring semesters and from 5 p.m. to midnight during summer sessions. 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 dispatcher.

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

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

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

Campus Buildings
Most University academic facilities are open to the public from 7 a.m. until the latest evening classes let out. Administrative buildings are generally locked at 6 p.m. When the University is closed, all buildings are locked and may be opened only by authorized personnel.

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

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

Protect your identity and personal information.

Crime Statistics
The University of Akron Police Department complies with reporting standards set by the United States Department of Education guidelines. Our crime statistics can be found at our police department website, www.uakron.edu/safety/annual-safety-report/crime-statistics.pdf. A hard copy of crime statistics can be obtained at The University of Akron’s Police Department located at 146 Hill St., Akron, OH 44325-0402.
Emergency Phone Numbers

Call extension 911 on campus to reach UA police immediately.

- Police ................................................................. 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.

Graduate School

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

Objectives

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

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

Nature of Graduate Education

The Graduate School provides a qualified student with education which may be required for the full development of scholarly and professional capacities, subject to the criteria developed by graduate departments.

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

History of the Graduate School

Graduate study began a few years after Buchtel College opened its doors, and the first earned master’s degree was conferred in 1882. The College of Education awarded its first master’s degree in 1924, the Colleges of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1978. 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. Brinwall was appointed dean of Graduate Studies and Research in 1967, being succeeded in 1968 by Dr. Edwin L. Lively. Dr. Claibourne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. 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 undergraduate student who qualifies may enroll in certain graduate-level classes and apply the credits earned to the total required for the baccalaureate degree. To receive graduate credit for the courses, however, the student must first be admitted to the Graduate School.

The Graduate School offers programs of advanced study leading to the degree of Doctor of Philosophy in chemistry, counseling psychology, elementary education, engineering (biomedical, chemical, civil electrical, engineering applied mathematics, mechanical, and polymer), guidance and counseling, history, integrated biology, nursing, occupational science, psychology, secondary education, sociology, urban studies and public affairs. The Doctor of Philosophy programs in nursing and sociology are joint programs with Kent State University. The Doctor of Audiology (Au.D.) Program is a joint degree program administered by The University of Akron and Kent State University. The Doctor of Philosophy program in urban studies and public affairs is a joint program with Cleveland State University. Further, the school...
also offers programs of study leading to master’s degrees with majors in diverse areas as delineated in the following pages.

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

**Graduate Faculty and the Graduate Council**

The graduate faculty is comprised of those members of the faculty who hold appointments at the rank of assistant professor or above and teach graduate courses, supervise theses and dissertations and are generally responsible for the content 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, five members from the Buchtel College of Arts and Sciences, two members form the College of Health Professions, 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)

**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.

First-time applications to the Graduate School must be accompanied by an application fee. The fee for domestic students is $40. The fee for international students is $60. A fee of $40 must accompany all domestic and international reapplications. Applications fees are not refundable under any circumstance.

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 documentation submitted to the Graduate School becomes the permanent property of The University of Akron. The Graduate School converts all documentation into an electronic file. After the document is converted into an electronic file the hard copy document is destroyed, and, as a result, the Graduate School is not able to provide and/or return original documentation to any applicant.

An offer of admission may only be made to an applicant who meets all admission requirements. 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 and attend courses within one year from the semester for which admission was granted. An individual whose offer of admission has lapsed must submit a new application along with the reapplication fee 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 an academic department within the University, but admission to a department does not necessarily imply 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 the staff of that office.

**Admission Validity**

An applicant is admitted for the term for which he/she seeks admission as indicated on the graduate application. Admission for graduate studies is valid for one year; thus an applicant is provided the option of deferring admission to a later semester within the one year timeframe. The offer of admission is void, however, if the applicant does not register for courses within the one year from the semester of admission. This does not apply to admission to those programs that admit for the fall semester only. Admission to such programs is only valid for that fall term for which admission was granted.

An applicant who is admitted for a given term and then seeks to have that term of admission made retroactive will be required to submit a reapplication to Graduate School along with a fee of $25. There is no guarantee that the academic department will approve admission for retroactive term changes.

**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...
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 grade point average falls below 3.00 and is no longer in good academic standing. Full-time students placed on academic probation are expected to return to good academic standing (overall GPA of 3.00 or above) after two consecutive semesters (excluding summers). Part-time students are expected to return to good academic standing (overall GPA of 3.00 or above) within the attempting of 15 additional graduate credits. Failure to return to good academic standing may result in academic dismissal.
- **Academic Dismissal** status refers to any student who fails to make satisfactory progress toward declared goals or who accumulates six semester credits of "C+" or below. The accumulation of six semester credits of "F" will result in mandatory dismissal. A student who is dismissed from the Graduate School may not be readmitted for one calendar year and then only if evidence for expecting satisfactory performance is submitted and found to be acceptable.
- **Postdoctoral status is divided into three categories:**
  - a Fellow is a person holding an earned doctorate who is engaged in advanced research. A fellow shall be considered a guest of the University and provided space and use of facilities within limits of practical need of the undergraduate and graduate programs. Tuition and fees shall be collected if allowed under sponsoring contract for any courses the fellow may choose to take;
  - a Special is a person holding an earned doctorate who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, application fee (if new student) and an official transcript from the institution awarding the doctorate. This student will be treated as a regular student subject to registration fees and program degree requirements;
  - a Guest is a person holding an earned doctorate who desires to attend courses and seminars relevant to individual work or interest without registering or receiving grades. A written application should be submitted to the dean of the Graduate School for each course to be taken, and approval of the instructor, department chair and college dean shall be obtained. A guest is welcome to register for any course or seminar provided space is available. Normally, space and facilities for research cannot be provided for a postdoctoral guest but special requests will be considered. Requests should be submitted, in writing, to the dean of the Graduate School who will review such requests with the appropriate college dean and department chair.

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

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

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

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

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

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

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

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

### Course Load

A full load of coursework at the graduate level is normally 9-15 semester credits including audit. Full-time status is defined as a minimum of 9 semester credits; or as defined by the Internal Revenue Service for those students with graduate assistantships.
Registration
The responsibility for being properly registered lies with the student, who should consult with the assigned advisor in preparing a program of courses and/or research. A schedule of courses, hours, class location and registration procedures is obtainable from the registrar.

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

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/.

International Students
The University of Akron welcomes international students and seeks to make their educational experience pleasant and meaningful. Currently, over 1,200 international students study at The University of Akron. The University of Akron 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/.

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 $60 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, P.O. Box 120, Akron, OH 44325-120, the Declaration and Certification of Finances (DCF), which can be obtained online at http://www.uakron.edu/eli/immigration/forms.dot. In addition, the student must submit original transcripts of their course work.
- International students must achieve a passing score on the TOEFL or IELTS. Scores more than two years old will not be accepted. See http://www.ielts.org for information about the IELTS.

Visas
International students must achieve a passing score on the TOEFL or IELTS. Scores more than two years old will not be accepted. See http://www.ielts.org for information about the IELTS.

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/eli/immigration/forms.dot. Annual tuition and living expenses for the 2012-2013 academic year will be approximately $30,000. Tuition is subject to change.

Immigration Information for Graduate Students on F-1/J-1 Visas
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/eli/immigration/forms.dot. The Certificate of Eligibility (I-20 or DS-2019) will be issued for full-time graduate students who meet the requirements for the University of Akron-funded assistantships, fellowships, or other forms of financial aid. The Certificate of Eligibility (I-20 or DS-2019) will not be issued for online programs which do not require the student’s physical presence on The University of Akron campus.
A student on an F-1 or J-1 status transferring to The University of Akron from another U.S. college/university, without leaving the U.S., will be eligible for transfer only if he/she maintains valid nonimmigrant status. The I-20 or DS-2019 will be issued upon submission of the documents proving valid status, meeting the requirements mentioned above, and the release of the SEVIS record to The University of Akron. A new I-20 or DS-2019 must be obtained before the student begins his/her program at The University of Akron.

International Student Orientation

The required International Student Orientation takes place two weeks before Fall classes begin, the week before Spring classes begin, and the Friday before each summer session. The cost is $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 grade of a "B" (or its equivalent) to be eligible for transfer credit.

Teaching Assistants

Applications whose native language is not English and who expect to become teaching assistants are also required to achieve 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 grade-point average of 3.00. No more than six semester credits of "C-", "C+", and "C" may be counted toward the degree. Grades of "D+", "D", and "D-" are treated as "F" grades. No grades below "C-" may be counted toward a degree.

Official academic records for graduate students are maintained with a grade-point system as follows:

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

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

I – Incomplete: Indicates that the student has done passing work in the course but that some part of the work is, for good and acceptable reason, not complete at the end of the term. Failure to make up the 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.

* 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 facility member should submit the new grade to the Office of the Registrar in writing.

Academic Reassessment

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

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

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

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

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

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 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 must file an online application for graduation with the Office of the University Registrar after completion of one-half of the credits required for their degree program or by the following dates:

- December 1 for Spring Commencement
- April 2 for Summer Commencement
- July 2 for Fall Commencement

Students wanting to attend the commencement ceremony must visit the Office of the University Registrar website to respond to the ceremony.

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 higher education. The University is committed to providing an educational environment that is fair, honest, honest, and fair to all members of the community.

Instances of academic dishonesty are addressed consistently. All members of the community contribute actively to building a strong reputation of academic excellence and integrity at The University of Akron.

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

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

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 if the evidence indicates it is more likely than not that an academic misconduct violation has occurred the department will follow procedures 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 benefits 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 receive state public assistance, and who may be subjected to tax liability under Section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.

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

3. An “institution of higher education” 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 Surcharge 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 and who is not receiving 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 stating...
of the residence certifying that parent, legal guardian, or spouse resides at that residence.

D. Additional criteria which may be considered by residency officers 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.

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 changes in 2012-2013 and are subject to change without notice.

<table>
<thead>
<tr>
<th><strong>Application Fee</strong> (this fee is not refundable under any circumstances)</th>
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<tbody>
<tr>
<td>Domestic</td>
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<tr>
<td>International</td>
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**Resident student per credit**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Fee</th>
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</thead>
<tbody>
<tr>
<td>CBA student per credit</td>
<td>$443.50</td>
</tr>
<tr>
<td>Non-resident student per credit</td>
<td>$487.85</td>
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<tr>
<td>Non-resident CBA student per credit</td>
<td>$692.95</td>
</tr>
<tr>
<td>Non-resident Nurse Anesthesia student per credit</td>
<td>$731.75</td>
</tr>
<tr>
<td>Non-resident Nurse Anesthesia student per credit (same fees apply when auditing classes)</td>
<td>$766.10</td>
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</table>

<table>
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<tr>
<th><strong>Non-resident surcharge per credit hour</strong></th>
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**Non-resident surcharge per credit hour**

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<th>Course Type</th>
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<tbody>
<tr>
<td>Resident student per credit</td>
<td>$521.00 per credit hour</td>
</tr>
<tr>
<td>CBA student per credit</td>
<td>$288.25 per credit hour</td>
</tr>
<tr>
<td>Non-resident student per credit</td>
<td>$316.00 per credit hour</td>
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**Waiver Exam Fee**

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<tr>
<th>Course Type</th>
<th>Fee</th>
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<tr>
<td>Resident student per credit</td>
<td>$100.00 per exam</td>
</tr>
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<td>CBA student per credit</td>
<td>$100.00 per exam</td>
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**International Executive MBA Program**

| 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 | $530.00 per credit hour |
| Non-resident surcharge | $288.25 per credit hour |
| Parking (if enrolled in more than five credit hours) | $150.00 per semester |
| Master of Fine Arts**Plus Administrative, Library, Technology, and Facilities Fees** |
| Tuition | $521.00 per credit hour |
| Non-resident surcharge | $288.25 per credit hour |
| Parking (if enrolled in more than five credit hours) | $150.00 per semester |
Three options are available to sign up for the payment plan:

- 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 service charge is assessed per semester 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/student-accounts/payments_and_billing/](http://www.uakron.edu/student-accounts/payments_and_billing/) by selecting the term of interest. Students enrolling the Installment Payment Plan for the fall or spring semester 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 70%
  - If 13.333% of class completed 50%
  - If 20% of class completed 30%
  - If 26.667% of class completed 20%
  - Greater than 33.33% of class completed 0%

Refunds for course sections which have not been scheduled consistent with the standard 15 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.

**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. 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, Federal Perkins Loan, Federal Work-Study Program, and Federal Direct Loan Program are examples of federal financial aid programs available to graduate students.

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.

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  - If 26.667% of class completed 20%
  - Greater than 33.33% of class completed 0%

Refunds for course sections which have not been scheduled consistent with the standard 15 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 post-baccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

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

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

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.

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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.

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 online application for graduation; 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 the 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/gillinthediss.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.

Continuous Enrollment Requirement

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

Time Limit

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

Credits

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

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

Transfer Credits

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

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

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

Language Requirements*

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

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

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

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

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 exam-
SECTION 4.
Graduate Studies

Buchtel College of Arts and Sciences

Chand Midha, Ph.D., Dean
William Guegold, Ph.D., Interim Associate Dean
Richard W. Stratton, Ph.D., Acting Assistant Dean
Linda M. Subich, Ph.D., Associate Dean
Joseph Wilder, Ph.D., Associate Dean
John Zipp, Ph.D., Associate Dean

Mission Statement
The mission of the Buchtel College of Arts and Sciences is to provide high quality education in humanities, social sciences, natural sciences, and arts. 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 four administrative divisions: Fine Arts, Humanities, Natural Sciences, and Social Sciences. The Humanities Division includes the departments of Anthropology and Classical Studies; 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, Mathematics, and Statistics. Students will explore physical and biological aspects of their world and learn to understand mathematics, the language of science. Their investigations will range from the characterization of molecules to mapping the expanse of the universe. They will learn about 3.5 billion years of Earth’s history and the science that will create the technologies of the future.
The Social Sciences Division includes the school of Communication, the departments of Economics, History, Political Science, Psychology, Public Administration and Urban Studies, and Sociology. In these disciplines students observe individuals, closely knit organizations, whole cultures developing over the centuries (sometimes at peace and sometimes at war), the economic and geographical realities affecting these populations, and the ways societies organize themselves for harmony, protection, and prosperity.
The Fine Arts Division includes the Myers School of Art, School of Dance, Theatre, and Arts Administration, School of Family and Consumer Sciences, and School of Music. In addition, it includes E.J. Thomas Performing Arts Hall, the region’s flagship performance venue. The Arts Division 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 Fine Arts Division can be found at http://www.uakron.edu/artscollege

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:

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; submitted an online application for graduation; met the preliminary and final dissertation submission 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.

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

Institution 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 and final dissertation submission deadlines. 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-
rticiencies.dot and the dissertation must conform to these instructions.

*The Doctor of Audiology (Au.D.) does not require a dissertation.
• 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 seminar requirement.
• Defend dissertation in an oral examination.
• Complete all general requirements for the doctor 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 in consultation with an advisor or advisory committee, consisting of at least 90 credits beyond the baccalaureate degree, including 24 credits of appropriate chemistry coursework and approved physics electives;
• complete the requirements of the monthly cumulative exams, the oral exam, and the seminar;
• defend the dissertation in an oral examination;
• complete all general requirements for the Doctor of Philosophy degree.

Students entering with the endorsement of the Physics Department must choose an advisor in the Physics Department holding a joint appointment in Chemistry; other students must select an advisor in the 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
(31001PHD)

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 be advisors on their committees that include faculty from two or more of the participating departments.

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

Admission Requirements
The applicant must meet the University admission requirements and have an undergraduate degree from an accredited institution. Applicants must submit GRE scores, although not required it is highly recommended that applicants also submit subject GRE in the field of undergraduate degree, three letters of recommendation, a statement of career goals and research interests, and note up to five faculty (rank-ordered) which they would be interested in having as their faculty advisor(s). Applicants are encouraged to contact their prospective Ph.D. advisors prior to submitting their formal applications. International students should contact The University of Akron Graduate School for specific admission requirements. Applications will be ranked according to:
• 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. Students in both departments are expected to attain a level of broad scientific competence in the core areas of psychology; the biological, social, cognitive-affective, and individual bases of human behavior. Practicum and internship experiences are also required of all students and range from skill building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding the emphasis, orientation, and coursework for the Psychology Department entry point is included below. Students receive exposure to both colleges through shared coursework and faculty involvement with exams and dissertations.

The Doctor 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
• 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 (810, 620, 630, 640, 650) 10
- Counseling psychology core courses (707, 709, 710, 711, 712, 713, 714, 715, 717) 33
- Practicum sequence (672 [2+2+2+2], 673 [2+2+2+2], 795 [4+4], 796 [4+4]) 32
- History, measurement, and developmental coursework (718, 727, 750) 8
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.
- Complete all general requirements for the Doctor of Philosophy degree.
- 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 an acceptable cognate field. Those whose native language is not English must demonstrate proficiency in English.
- Internship – 2,000 hours postmaster's over no more than two years. The internship 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.
- Complete all general requirements for the Doctor of Philosophy degree.
- 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 an acceptable cognate field. Those whose native language is not English must demonstrate proficiency in English.
- Internship – 2,000 hours postmaster's over no more than two years. The internship 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 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;

- 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;

**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;

Application materials must be received by January 15.

- Major field:
  - a minimum of 94 graduate credits including a 30-credit master's program. A student may be required to complete additional credits beyond the 94 minimum credit requirement;
  - completion of Ph.D. core courses in the student's specialty area: industrial/organizational or adult development and aging. Core courses are specified in the Department of Psychology Graduate Student Manual. The student is required to maintain at least a 3.5 GPA in core courses and overall courses;
  - completion of additional required and elective courses to be planned in conjunction with the student’s faculty advisor and subject to approval by the industrial/organizational or adult development and aging committees.

- Written comprehensive examinations:
  - satisfactory performance on final examination and defense of dissertation research (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
- 3750:731 Perception, Attention, and Aging
- 3750:732 Cognition and Aging
- 3750:736 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)
Successful completion of dissertation document, oral defense of document, and 30 dissertation credit hours;
• Complete and fulfill general doctoral degree requirements of the Graduate School.

Doctor of Philosophy in Urban Studies and Public Affairs
(398006PHD)
(Admissions currently suspended)

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 submitted.
• Three letters of recommendation from persons familiar with the applicant’s recent performance and abilities.
• A sample of the applicant’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
  3980:740 Survey Research Methods
  3980:760 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 planning, geology (earth science), history, mathematics, modern languages (Spanish), physics, political science, psychology, sociology, statistics and public administration and urban studies. Before undertaking such a program, the student must show that the general requirements for admission to the Graduate School have been met, and the standard requirements for an undergraduate major in the area of the proposed graduate specialty have been met or that the student has performed work which the department approves as equivalent to an undergraduate major.
**Biology**

*(310000MS)*

**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 from the prospective advisor 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-Adept 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 intended for Medical Doctors and Doctors of Osteopathic Medicine who have graduated from an accredited U.S. medical school.

- Course work in addition to the master’s research and seminars (must be approved by the graduate advisor) – 16 credits (no transfer credits are allowed for this option).
- Research and thesis – minimum of 12 credits.
- Participation in seminars – a maximum of two credits.

**Required Courses for Both Options:**

At least two courses of the following six listed below are required

- 3100:616 Graduate Evolutionary Biology
- 3100:617 Advanced Ecology
- 3100:625 Basic DNA Techniques
- 3100:626 Techniques in Molecular Biology
- 3100:673 Integrative Stress Physiology
- 3100:676 Integrative Physiology

**Nonthesis Option**

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

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

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

**Chemistry**

*(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 should be submitted 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.

**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 – 12 credits:
    - 7600:600 Introduction to Graduate Study in Communication 3
  - Choose two of the following courses:
    - 7600:602 Qualitative Methods in Communication 3
    - 7600:603 Quantitative Methods in Communication 3
    - 7600:670 Communication Criticism 3
  - Choose one of the following courses:
    - 7600:624 Survey of Communication Theory 3
    - 7600:625 Theories of Mass Communication 3
  - School coursework – 12 credits.
  - Graduate electives – 6 credits.
  - Thesis (699) or Project/Production (698) – 6 credits.
- Total – 36 credits.

- Comprehensive examination required for students not pursuing a thesis, project, or production after 24 credits of coursework, including all core courses.
- 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.

**Computer Science**

**Master of Science – Computer Science**

*(346000MS: Non-thesis Option)*

*(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 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;
- submit a statement of purpose;
- submit a resume;
- 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 knowledge of at least one high-level programming language; and,
- demonstrate proficiency in data structures, computer organization and operating systems.

A student deficient in one or more of these areas may be granted provisional admission.
Application materials must be submitted by March 15 for fall and summer enrollment and by October 15 for spring enrollment. Applications submitted after these deadlines may be considered.

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. 3460:535 Algorithms
  2. 3460:635 Advanced Algorithms

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).

Non-thesis 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: Non-thesis Option)
(346009MS: Thesis Option)

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

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: Non-thesis Option)
(330000MAT: Thesis Option)

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.

Non-thesis 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
3300:570 History of the English Language† or
3300:670 Modern Linguistics†

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

British American
Up to 1660 Up to 1865
1660-1900 1865-present
1900-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: Non-thesis Option)
(330001MAT: Thesis Option)

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

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.

Non-thesis Option
A minimum of 36 credits is required, only 6 of which may be individual reading. At least 24 credits are 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:
- 3300:578 Grammatical Structures of English
- 3300:670 Modern Linguistics

And one of the following three courses:
- 3300:679 Management Reports
- 3300:625 Autobiographical Writing
- 3300:677 Scholarly Writing

Optional courses:
- 3300:660 Cultural Studies: Theory and Practice
- 3300:688 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.

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

Master of Fine Arts in Creative Writing (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 courses restricted to graduate students only, except as noted below:
- Writing Workshops - 15 credits
- Craft and Theory Courses - 9 credits (at least three and no more than six in the student’s primary genre of concentration)
- Literature Courses - 6 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.

Family and Consumer Sciences
A program of study is offered leading to the Master of Arts in Family and Consumer Sciences. This degree offers options in child and family development and clothing, textiles and interiors.

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 scores or higher:
  - For students who have taken the GRE prior to August 2011: 410 on verbal, 430 on quantitative, and 4.0 on analytical writing;
  - For students who have taken the GRE in August 2011 or later: 147 on verbal, 141 on quantitative, and 4.0 on analytical writing
- Three letters of recommendation
- Statement of purpose
- Resume

Application materials must be received by March 1 for fall enrollment if applying for a graduate assistantship, and by October 1 for spring enrollment if applying for a graduate assistantship. Applications are accepted on a rolling basis for those not applying for a graduate assistantship.

Accepted students will be expected to comply with the following requirements:
- Complete the course of study in one of the two options, with a minimum of 40 credits.
- Pass an oral examination covering the thesis or project.

These credits will include:
- Foundation courses to prepare for research in family and consumer sciences as an interdisciplinary field;
- Core courses in the area of specialty;
- Option electives and cognate electives, selected in consultation with academic advisor, from within School or in another discipline. These are chosen to strengthen student’s professional goals.
- Pass a written comprehensive examination over major and minor areas after the completion of at least 19 credits of graduate work.
- Complete a master’s thesis or a master’s project. The thesis option involves the design and evaluation of original research in an appropriately related area congruent 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 graduation 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
  - 7400:650 Historical and Conceptual Bases of Family and Consumer Sciences
  - 7400:655 Research Methods in Family and Consumer Sciences

Child and Family Development Option (H40110MA)
- Core Courses:
  - 7400:602 Family in Lifespan Perspective
  - 7400:605 Developmental Parent-Child Interactions (online)
  - 7400:607 Family Dynamics
  - 7400:609 Child Development Theories
  - 7400:665 Development in Infancy and Early Childhood

- 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)
- 7400:504 Middle Childhood and Adolescence
- 7400:506 Family Financial Management
- 7400:540 Family Crisis
- 7400:541 Family Relationships in the Middle and Later Years
- 7400:542 Human Sexuality
- 7400:546 Culture, Ethnicity, and the Family (online)
- 7400:548 Before and After School Child Care
- 7400:560 Organization and Supervision of Child-Care Centers
- 7400:596 Parent Education (online)
- 7400:688 Practicum in Family and Consumer Sciences
• Core Requirements  (21 credits)
  Nonthesis Option
  • Thesis
  • 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)
    NOTE: The M.S. in Geography/Geographic Information Sciences is now being administered by the Department of Geology and Environmental Science.

  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
    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)
  • 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

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**Geography and Planning**

**Master of Arts in Geography**

(335010MA: Thesis Option)

(335000MA: Nonthesis Option)

NOTE: The M.A. in Geography is now being administered by the Department of Geology and Environmental Science.

**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)
  3350:505 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)
• 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
• 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)
• 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
• Thesis
  At least 9 credits and no more than 15 credits of 3350:699.
Graduate Studies

Master of Arts (Geography/Urban Planning) (335011MA: Thesis Option) (335003MA: Nonthesis Option)

NOTE: The M.A. in Geography/Urban Planning is now being administered by the Department of Public Administration and Urban Studies.

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

Nonthesis Option
- Core Requirements (30 credits)
  3350:505 Geographic Information Systems
  3350:532 Land Use Planning Law
  3350:537 Planning Analysis and Projection Methods
  3350:538 Land Use Planning Methods
  3350:539 History of Urban Design and Planning
  3350:581 Research Methods in Geography and Planning
  3350:583 Spatial Analysis
  3350:630 Planning Theory
  3350:631 Facilities Planning
  3350:600, 601 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)

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

Geology (337000MS)
The minimal background for admission without deficiency should include a six-credit geology field camp course and equivalents to courses in mineralogy, petrology, structural geology, sedimentology/stratigraphy, and any two upper level geology courses.

Students should have completed the equivalent of a minimum of six semester courses in introductory chemistry, physics, biology, calculus or equivalents; including at least one semester of calculus, physics and chemistry. All courses should be taught for science/mathematics/engineering majors.

The academic background of each incoming graduate student will be reviewed during the student's first semester by the graduate advisor, thesis advisor, and department chair to determine whether background deficiencies exist for his/her planned program of study.

Earth Science (337001MS)
Equivalents of the current geology courses for the University's B.A. in geology are required. Course program will be selected to provide the student with a well-rounded background in lithosphere, hydrosphere and atmosphere. Those who will be teachers must take 5500:780 Seminar in Curricular and Instructional Studies: Earth Science, or equivalent.

Geophysics (337002MS)
Equivalents of the geology, cognate science and mathematics requirements for the University’s B.S. in geophysics are required.

Engineering Geology (337003MS)
This program is for the graduate engineer and geologist who wishes to broaden expertise in the other field. The entering student who has some deficiencies in either engineering or geology may have to satisfy one or more of the following requirements while proceeding with graduate studies. A committee of engineering geology faculty will determine appropriate coursework on an individual basis.

- 3370:101 Introductory Physical Geology
- 3370:210 Geomorphology
- 3370:350 Structural Geology
- 3450:221,2,3 Analytical Geometry Calculus I, II, III
- 4300:201 Statics
- 4300:202 Introduction to Mechanics of Solids
- 4300:313 Soil Mechanics
- 4300:314 Geotechnical Engineering

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

Environmental Geology (337004MS)
Equivalents of the University’s B.S. degree in natural science (biology, chemistry, geology, mathematics, or physics) or engineering, plus the equivalent of the University’s minor in geology and Geology Field Camp I and II are required. As many as eight credits may be selected from engineering, biology and/or geography with the approval of a geology advisor.

History

Master of Arts (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 intent, stating the applicant's reasons for wishing to pursue graduate work and the fields of history which the applicant intents to study;
- scores on the Graduate Record Examination, General Aptitude Test;
- a writing sample, preferably a research paper from a history class;
- three letters of recommendation, preferably from faculty who know the applicant well;
- Applicants whose native language is not English must also score at least 580 on the Test of English as a Written Language (TOEFL), at least 240 on the Test of English as a Spoken Language (TSE), and take the Test of Written English (TWE).
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 America to 1877
  - Medieval United States Since 1877
  - Europe, Renaissance to 1750 Europe, 1750 to present
  - History of Science Comparative Non-Western History*
  - Public History World 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.

**BA/MA Program in History (340001MA)**
This is an accelerated five-year BA/MA program. After successfully completing this program a student will receive a bachelor’s degree as well as a master’s degree in history. Under the supervision of faculty advisers in history 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 coursework 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.

Bachelor of Arts in History
- the General Education requirement* and the second year of a foreign language;
- a minimum of 32 credits of history courses, which include:
  - Core Requirements:
    - 3400:310 Historical Methods (3 credits)
  - At least six credits from each of the following fields:
    - Field I United States and Canada
    - Field II Europe
    - Field III Ancient, Asia, Latin America, Africa
  - Electives: Additional elective credits to total at least 32 credits**
  - Upper-level requirement*** A minimum of six credits must be at the 400-level and in two different fields.

Notes:
- *Courses in World Civilizations as well as Humanities in the Western Tradition (3400:21) and Humanities in the World since 1300 (3400:211) may not be used to meet major requirements in History.
- **With the approval of the Department of History undergraduate adviser a History major may apply up to six credits of coursework in related disciplines (cognate courses) toward the 32 credits required for the History major. Cognate credit, however, shall not be substituted for either Historical Methods or for the field distribution requirement specified above.
- ***Transfer students must take a minimum of 14 credits of History coursework at UA and must have a minimum of 16 credits in 300- and 400-level classes.

Graduate coursework will include:

- In the fourth year:
  - 3400:689 Historiography (fall semester) plus any two courses which offer credit at both the 400- and 500-level but will receive credit for them at both the undergraduate and graduate levels.
  - In the fifth year:
    - Option I: Three reading seminars, one followed by a writing seminar, with the writing seminar paper read and approved by two faculty members.
    - Option II: Two reading-writing seminar sequences under different professors with the writing seminar paper of the student’s choice read and approved by two faculty members.
    - Option III: Two reading seminars, one writing seminar, and a thesis which must be read and approved by two faculty members.
     *(Students intending to go on to the doctoral program should select Option II or Option III, preferably Option III)*

To complete the program a student must:

- Finish all undergraduate General Education requirements;
- Complete the second year (or its equivalent) of a foreign language;
- Earn 32 undergraduate credits in history;
- Earn 30 graduate credits in history (not including 3400:690 Teaching Practicum);
- Pass written comprehensive examinations in at least two fields from the following list:
  - Ancient America to 1877
  - Medieval United States Since 1877
  - Europe, Renaissance to 1815 Europe, 1750 to present
  - History of Science Latin America
  - Public History East Asia
  - South Asia Africa
  - Middle East World History
  - Earn at least seven credits in a third field from the list above or in a cognate field approved by the director of graduate studies.

**Mathematics**

**Master of Science – Mathematics (345000MS: Non-thesis Option)**
**(345000MST: Thesis Option)**

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 use 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.

Program Requirements: A minimum of 30 graduate credits, after completion of any deficiency courses, are required.

- Core requirements (18-19 credits):
  - 3450:510 Advanced Linear Algebra 3
  - 3450:513 Theory of Numbers 3
  - 3450:512 Abstract Algebra II 3
  - 3450:522 Advanced Calculus II 3
  - 3450:621 Real Analysis 3
  - or 3450:625 Analytic Function Theory 3
  - 3450:636 Advanced Combinatorics and Graph Theory 3

A statistics course selected from:
  - 3470:550 Probability 3
  - 3470:551 Theoretical Statistics I 3
  - 3470:561 Applied Statistics I 4
  - 3470:651 Probability and Statistics 4
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, three credits in 3450:692 Seminar in Mathematics, 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 eleven (or twelve) credits of electives approved by the graduate advisor must be completed.

Master of Science – Applied Mathematics

(345001MS: Non-thesis Option)
(345001MST: Thesis Option)

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.

Program Requirements: A minimum of 30 graduate credits, after the completion of deficiency courses, is required.

• Core Requirements (18 credits):
  3450:621 Real Analysis 3
  3450:627 Advanced Numerical Analysis I 3
  3450:633 Methods of Applied Mathematics I 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

Thesis Option

In addition to the placement review and core requirements, at least six credits of electives approved by the graduate advisor, three credits of 3450:692 Seminar in Mathematics, and three credits of 3450:699 Master’s Thesis must be completed.

Nonthesis Option

In addition to the placement review and core requirements, at least twelve credits of electives approved by the graduate advisor must be completed.

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 48, College of Engineering), shall apply to all applicants for the Engineering Applied Mathematics Program.

BS/MS Program in Mathematics

(345010MS: Non-thesis Option)
(345010MST: Thesis Option)

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:510</td>
<td>Advanced Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450:513</td>
<td>Theory of Numbers</td>
<td>3</td>
</tr>
<tr>
<td>3450:512</td>
<td>Abstract Algebra II</td>
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</tr>
<tr>
<td>3450:522</td>
<td>Advanced Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>3450:621</td>
<td>Real Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3450:625</td>
<td>Analytic Function Theory</td>
<td>3</td>
</tr>
<tr>
<td>3450:636</td>
<td>Advanced Combinatorics and Graph Theory</td>
<td>3</td>
</tr>
<tr>
<td>3450:692</td>
<td>Seminar in Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>3470:550</td>
<td>Probability</td>
<td>3</td>
</tr>
<tr>
<td>3470:551</td>
<td>Theoretical Statistics</td>
<td>3</td>
</tr>
<tr>
<td>3470:561</td>
<td>Applied Statistics I</td>
<td>4</td>
</tr>
<tr>
<td>3470:651</td>
<td>Probability and Statistics</td>
<td>4</td>
</tr>
<tr>
<td>3450:699</td>
<td>Master’s Thesis (for thesis option)</td>
<td>3</td>
</tr>
</tbody>
</table>

A minimum of 30 graduate credits plus a project paper for non-thesis option

Electives: 8-9 credits

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 work will include the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:621</td>
<td>Real Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3450:627</td>
<td>Advanced Numerical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>3450:633</td>
<td>Methods of Applied Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>3450:692</td>
<td>Seminar in Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>3450:699</td>
<td>Master’s Thesis</td>
<td>3</td>
</tr>
</tbody>
</table>

Graduate work will include the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:625</td>
<td>Analytic Function Theory</td>
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</tr>
<tr>
<td>3450:628</td>
<td>Advanced Numerical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>3450:632</td>
<td>Advanced Partial Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

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 Voice Performance and Piano Accompanying options a proficiency equal to two semesters each of Italian, German, and French is required for completion of the Master of Music degree. There is no substitution for this requirement for the MM Voice Performance. Piano Accompanying degree program (only) may substitute Diction I and II for this requirement. For the History and Literature option proficiency equal to two semesters of German is required for completion of the MM degree. A language other than German may be substituted for the History and Literature language proficiency with approval from the department. For details on how to show language proficiency please contact the Graduate Coordinator for the School of Music.

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 1900 2
7500:647 Master’s Chamber Recital 1
7500:699 Master’s Thesis/Project 4-6
7510:6— Ensemble (participation in two ensembles required) 2
7520:642 Applied Composition 8

• Additional music courses – zero to two credits.

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

• Electives – three credits.

To be selected by student and advisor. Areas include graduate-level courses in other disciplines, such as theatre arts, in which the student obtains permission of instructor, or 7520:642 Applied Composition.

Degree total: 34-36 credits.

Music Education Option
(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 4-6

• 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—6— Applied Music 8
7510:6— Ensemble 2
7500:5—6— Other music courses 8
5100:5—6— Educational Foundations and Leadership 4
5170:5—6— General Administration 4
55—5—6— Curricular and Instructional Studies 4
or
5500:780 Seminar in Curricular and Instructional Studies 4

Non-Thesis Option – 34 credits

• Required Music Education Core Courses – 9 credits

7500:611 Foundations of Music Education (summer) 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—6— Applied Music 8
7510:6— Ensemble 2
7500:5—6— Other music courses 8
5100:5—6— Educational Foundations and Leadership 4
5170:5—6— General Administration 4
55—5—6— Curricular and Instructional Studies 4
or
5500:780 Seminar in Curricular and Instructional Studies 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
7500:699 Master’s Thesis/Project 4-6

• Additional music/education courses – select 17-19 credits with approval of music education and graduate advisors. A minimum of 14 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
7510:6— Ensemble 2
7500:5—6— Other music courses 8
5100:5—6— Educational Foundations and Leadership 4
5170:5—6— General Administration 4
55—5—6— Curricular and Instructional Studies 4
or
5500:780 Seminar in Curricular and Instructional Studies 4

Non-Thesis Option – 34 credits

• Required Music Education Core Courses – 9 credits

7500:611 Foundations of Music Education (summer) 3

• Additional music/education courses – select 25 credits with approval of music education and graduate advisors. A minimum of 14 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
7510:6— Ensemble 2
7500:5—6— Other music courses 8
5100:5—6— Educational Foundations and Leadership 4
5170:5—6— General Administration 4
55—5—6— Curricular and Instructional Studies 4
or
5500:780 Seminar in Curricular and Instructional Studies 4

Music Education: Choral/General Music Option
(C50019MM: Thesis Option)
(C50018MM: 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 4-6

• Additional music/education courses – select 17-19 credits with approval of music education and graduate advisors. A minimum of 14 credits must be related to choral/general 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
7510:6— Ensemble 2
7500:5—6— Other music courses 8
5100:5—6— Educational Foundations and Leadership 4
5170:5—6— General Administration 4
55—5—6— Curricular and Instructional Studies 4
or
5500:780 Seminar in Curricular and Instructional Studies 4

Non-Thesis Option – 32 credits

• Required Music Education Core Courses – 13-15 credits

7500:611 Foundations of Music Education (summer) 3
7500:612 Practices and Trends in Music Education (fall) 3
7500:614 Measurement and Evaluation in Music Education (spring) 3
7500:699 Master’s Thesis/Project 4-6

• Additional music/education courses – select 17-19 credits with approval of music education and graduate advisors. A minimum of 14 credits must be related to choral/general 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
7510:6— Ensemble 2
7500:5—6— Other music courses 8
5100:5—6— Educational Foundations and Leadership 4
5170:5—6— General Administration 4
55—5—6— Curricular and Instructional Studies 4
or
5500:780 Seminar in Curricular and Instructional Studies 4
Non-Thesis Option – 34 credits

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

- Additional music/education courses – select 25 credits with approval of music education and graduate advisor. A minimum of 22 credits must be related to choral/general music education. Choices may include the following:

  7500:666 Advanced Song Literature I 2
  7500:668 Advanced Song Literature II 2
  7500:669 Graduate Recital (to be completed in a minimum of two performance media) 2
  7500:675 Seminar in Music Education 9
  7500:697 Advanced Problems in Music Education 4
  7500:698 Graduate Recital 2
  7500:699 Master's Thesis/Project 4-6

- Electives – four credits.*

Music History and Literature Option (C50004MM)

- Music core courses – eight credits (to be selected):
  7500:555 Advanced Conducting: Instrumental 2
  7500:556 Advanced Conducting: Choral 2
  7500:618 Musical Styles and Analysis IV (20th Century) 2
  7500:621 Music History Survey: Classic and Romantic 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
  7500:697 Advanced Problems in Music 4
  7500:699 Master's Thesis/Project 4-6

- 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

- Additional music courses – two to four credits.

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

- Electives – two to four credits. To be selected by the student and advisor. Areas include graduate-level courses in other disciplines in which the 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 preparation. Opportunities for fields related to music technology. Students will leave the program with a portfolio of tutorials, recorded works, and/or computer software.

- Music core courses – six credits (to be selected):
  7500:555 Advanced Conducting: Instrumental 2
  7500:556 Advanced Conducting: Choral 2
  7500:616 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:617 Musical Styles and Analysis II 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 – 25 credits:
  7500:553 Music Software Survey and Use 2
  7500:613 Instructional Programming in Music for the Microcomputer 3
  7500:615 Musical Styles and Analysis I 2
  7500:616 Musical Styles and Analysis II 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

- Electives – 2 credits. To be selected by the student and advisor.

Degree Total: 33 credits.

Performance Option in Accompanying (C50008MM)

- Music core courses – Eight credits (to be selected):
  7500:555 Advanced Conducting: Instrumental 2
  7500:556 Advanced Conducting: Choral 2
  7500:616 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:617 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500:618 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 – 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
  7510:618 Small Ensemble - Mixed 2
  7520:6— Applied Music (piano, organ and/or harpsichord) 8

- Additional music courses – two to three credits.

- Elective – two credits.

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

Degree total: 33-36 credits.

Performance Option in Winds, String, Percussion (C50102MM: Strings Performance)
(C50103MM: Woodwinds Performance)
(C50105MM: Percussion 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 II (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— Ensemble (participation in two ensembles required)** 2-4
  7520:6— Applied Music (select appropriate instrument) 8

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

- Additional music courses – six credits.*

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

- Electives – four credits.*

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

Degree total: 34-36 credits.

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

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

**Two semesters ensemble participation required for degrees completed in four semesters. Four semesters ensemble participation required for degrees completed in four semesters.
Performance Option in Voice (C50109MM)

- 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 throughPalestine) 2
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:621 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
  - 7500:604 Development of Opera 2

- Major required courses – 20-22 credits:
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
  - 7500:695 Vocal Pedagogy 2
  - 7500:696 Advanced Song Literature I 2
  - 7500:667 Advanced Song Literature II 2
  - 7500:698 Graduate Recital 2
  - 7510:6— Ensemble (participation in two ensembles required)** 2-4
  - 7520:624 Applied Voice 8

- Additional music courses – 2 credits (suggested minimum).

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

- Electives – 4 credits.

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

Degree total: 34-36 credits.

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

Performance Option in Keyboard (C50100MM: Piano Performance) (C50104MM: Organ 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 throughPalestine) 2
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:621 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 – 18-21 credits:
  - 7500:618 Musical Styles and Analysis IV (20th Century) 2
    (Select either 7500:562 or 7500:633)
  - 7500:562 Repertoire and Pedagogy: Organ 3
  - 7500:633 Teaching and Literature: Piano and Harpsichord 2
  - 7500:697 Advanced Problems in Music 2
  - 7500:698 Graduate Recital 2
  - 7510:614 Keyboard Ensemble (participation in two ensembles required)** 2-4
  - 7520:6— Applied Music (piano, organ and/or harpsichord) 8

- Additional music courses – three to four credits.

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

- Electives – four credits.

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

Degree total: 34-36 credits.

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

Performance Option: Orchestral Conducting (C50111MM)

- Music Core Courses (8 credits)
  - 7500:616 Musical Styles and Analysis II 2
  - 7500:617 Musical Styles and Analysis III 2
  - 7500:618 Musical Styles and Analysis IV 2
  - 7500:622 Music History Survey: Baroque 2
  - 7500:623 Music History Survey: Classical and Romantic 2
  - 7500:624 Music History Survey: Music Since 1900 2
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:615 Musical Styles and Analysis I (Chant throughPalestine) 2
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) 2
  - 7500:621 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 Bibliography and Research 2
  - 7500:626 Advanced Problems in Music (Choral Conducting) 4
  - 7520:621 Ensemble* 2
  - 7520:624 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.

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
  - 7500:624 Music History Survey: Music Since 1900 2
  - 7500:625 Musical Styles and Analysis IV (20th Century) 2
  - 7500:623 Music History Survey: Classical and Romantic 2

- Major Required Courses (24 credits)
  - 7500:555 Advanced Conducting: Instrumental 2
  - 7500:556 Advanced Conducting: Choral 2
  - 7500:557 Studies in Choral Literature I (Medieval/Renaissance) 2
  - 7500:571 Studies in Choral Literature II (Baroque) 2
  - 7500:572 Studies in Choral Literature III (Classical/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
  - 7510:620-21 Orchestra* 4
  - 7520:621 Ensemble* 2

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):
  - 7500:555 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 1900 2
  - 7500:625 Bibliography and Research 2

- Major required courses – 26-28 credits:
  - 7500:615 Musical Styles and Analysis I (Chant throughPalestine) 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.

**Two semesters ensemble participation required for degrees completed in two semesters. Four semesters ensemble participation required for degrees completed in four semesters.
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:
  - 3650:551 Advanced Laboratory I 3
  - 3650:615 Electromagnetic Theory I 3
  - 3650:625 Quantum Mechanics I 3
  - 3650:641 Lagrangian Mechanics 3
  - 3650:661 Statistical Mechanics 3
  - 3650:685 Solid-State Physics I 3

A student preparing for further graduate work in a physical science or for academic or industrial employment should include the following courses in the graduate program:

- 3650:581.2 Methods of Mathematical Physics I, II 6
- 3650:616 Electromagnetic Theory II 3
- 3650:626 Quantum Mechanics II 3
- 3650:552 Advanced Laboratory II 3

A student must complete at least one of the following two options:

Option A: A formal report, based on an original research project, submitted in a form suitable for publication and approved by a physics faculty committee.

Option B: A master's thesis.

• Graduate research participation is strongly encouraged. Up to five credits may be earned in 3650:697 Graduate Research, upon the completion of a graduate research project. One additional credit may, upon approval by the department, be permitted in 3650:699 Master's Thesis for the completion of a master's thesis based on such research. A successful thesis may thus account for up to six of the total 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 29 of this Graduate Bulletin. The Chemical Physics option is described in detail on page 30.

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

Political Science

Master of Arts (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 at least 24 credits at the 600-level, as follows:
  - Four required core courses:
    - 3700:600 Scope and Theory of Political Science 3
    - 3700:601 Research Methods in Political Science 3
    - 3700:602 Foundations of Political Science 3
    - 3700:603 Scholarly Writing and Professional Development in Political Science 3
  - Four additional departmental seminars, 12 credits (neither independent research, MA seminar, nor internship is considered a graduate seminar).
  - Six additional credits at the graduate level.
• Pass a comprehensive written examination covering one concentration: American Institutions, Criminal Justice, or International Studies.
• Complete the following written 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
- 3700:655 Campaign and Election Law 3
- 7600:575 Political Communication 3

Fifteen credits of additional course work from above or from approved courses in Political Science, Communication, Public Administration, or other departments.

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

J.D./Master of Applied Politics

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 and Election Law 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 department 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 General 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: Adult 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.

Application 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)

3800:650 Basic Quantitative Research 3
3800:651 Advanced Research and Statistical Methods 3
3800:615 Public Organization Theory 3
3800:643 Introduction to Public Policy 3
3800:671 Program Evaluation in Urban Studies 3
3800:675 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 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 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 (3850:695). 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. All students may work with their advisors to craft a specialization that fits their needs and interests. Students should contact the department office to get a copy of the handbook.

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

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

J.D./Master of Public Administration
The University offers a joint J.D. and Public Administration program. The title is J.D./M.P.A. To be accepted into the program, a student must meet the admission 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 required public administration courses plus an internship of three credits. (Internship is required of any student without professional administrative experience.)

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

Sociology
Master of Arts
(385010MA: Thesis Option)
(385011MA: Nonthesis Option)
The University of Akron and Kent State University offer a joint graduate program in Sociology. Courswork is offered at both campuses, faculty from both campuses serve on students' committees and research projects.

It should be noted that the program seeks to admit students who expect to complete a Ph.D. at The University of Akron, and the curriculum is structured to serve full-time students. Thus, students generally complete the requirements for the master's degree in the process of pursuing the doctorate. It is recommended that students who are not interested in receiving a Ph.D. or who are interested in a part-time program of study consider applying to sociology programs that focus on awarding master's degrees and which are better able to serve the needs of part-time students.

Admission Requirements
The curriculum is designed for fall admission only, and completed application materials must be received by January 15 for those applicants seeking financial support from the department. Applicants not seeking funding must have application materials submitted by March 1.

Specific criteria considered for admission include:
- Fulfill admission requirements of the Graduate School and department
- Undergraduate cumulative grade point average of 3.0
- GRE General Test
- Personal statement indicating reasons for pursuing a graduate degree in Sociology at The University of Akron
- Three letters of recommendation from persons familiar with the applicant's academic work
- Applicants whose native language is not English must score at least 577 (paper-based) of 233 (computer-based) on the TOEFL.

Note: The admissions committee is unable to consider incomplete applications. Interested applicants are encouraged to visit the department website for further information about the program and the application process.

Thesis Option
In addition to meeting the general requirements of the Graduate School, a student working toward the M.A. in Sociology must fulfill the following requirements:
- Complete 35 credit hours of coursework (14 credits of required coursework, 15 credits of electives, and six credits of thesis) with at least a 3.0 grade point average. Only three credit hours taken at the 500-level, and only three credit hours of 697 or 698 can be counted toward the degree.
- Complete the following required courses:
  - 3850:604 Quantitative Methods in Sociology 4
  - 3850:628 Professional and Ethical Issues in Sociology 3
  - 3850:706 Multivariate Techniques in Sociology 4
  - 3850:722 Early Sociological Thought 3
- Complete six credit hours of thesis (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
In rare circumstances it may be determined by the graduate faculty that the M.A. degree may be completed through the non-thesis option. This terminal degree will be completed through a process focused on intensive substantive training in a specialized area.

In addition to meeting the general requirements of the Graduate School, a student working toward a non-thesis M.A. in Sociology must fulfill the following requirements:
- Complete the following required courses with at least a 3.0 grade-point average:
  - 3850:604 Quantitative Methods in Sociology 4
  - 3850:628 Professional and Ethical Issues in Sociology 3
  - 3850:706 Multivariate Techniques in Sociology 4
  - 3850:722 Early Sociological Thought 3
- Completion of at least 21 additional credits of elective coursework. Only six credit hours taken at the 500-level and only three credit hours of 697 or 698 can be counted toward the degree. Twelve to 15 of these credits must be in a contracted specialty area defined in consultation with the student's advisor and approved by the Graduate Studies Committee.
- Pass an oral examination on the specialty area.

Spanish
Master of Arts
(358000MA)
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 (score must be no more than two years old). Applications are accepted on a rolling basis.

Program Requirements
- 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: Non-thesis Option)
(347000MST: Thesis Option)
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 3470:692 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.

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 arts administration/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.
- Complete a maximum of 30-33 credits:
  - 7850:600 Research and Writing Techniques 3
  - 7850:605 Colloquium in the Arts 3
  - 7850:665 Audience Development 3
  - 7850:666 Principles of Arts Administration 3
  - 7850:682 Fund Raising and Grantsmanship in the Arts 3
  - 7850:691 Arts Administration Policies and Practices 3
  - 7850:692 Legal Aspects of Arts Administration 3
  - 7850:698 Internship 3-6
  - 7850:699 Master’s Thesis 6

- 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

- 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.)
Missouri University of Science and Technology

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 technical 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 3.04/4.0. Applicants with a master's degree must have a cumulative grade point average of at least 3.54/4.0.

Transfer Credits

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

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

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

Degree Requirements

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

• An entering doctoral student will have the chair of the Interdisciplinary Doctoral Committee (IDC) in his/her home department/program.
• Student's plan of study should include 96 credit hours and be in accordance with the guidelines established by the student's admitting department/program.
• A Plan of Study will be established by the IDC satisfying guidelines established by the home department/program.
• Identify an interdisciplinary field of study, a dissertation director, and an Interdisciplinary Doctoral Committee before completion of 18 credits of coursework.
• Pass a departmental Qualifying Examination. The purpose of the qualifying examination is to determine admisibility to the doctoral program and any technical weakness.
• Satisfy the language requirement specified by the Interdisciplinary Doctoral Committee.
• Pass a Candidacy Examination. The purpose of the candidacy examination is to test the student's ability to conduct independent research.
• Present an acceptable Dissertation Proposal that describes the proposed research to the Interdisciplinary Doctoral Committee.
• Present and successfully (no “fail” votes) defend the dissertation to the Interdisciplinary Doctoral Committee.

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

Doctoral Student's Responsibilities

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

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

The proposal to establish a doctoral program in the College of Engineering, which was approved by the Board of Trustees of The University of Akron and the Ohio Board of Regents in 1967-68, defines the four undergraduate departments (as of 1999, a Biomedical Engineering undergraduate program was approved by the Ohio Board of Regents), Chemical, Civil, Electrical, and Mechanical, as the basic disciplines for the interdisciplinary programs in Environmental Engineering, Materials Engineering, Mechanics, Systems Engineering, and Transport Processes. The objectives of the proposal were to allow doctoral students access to the infrastructure resources of the entire college and permit the interdisciplinary programs to adapt to the changing research and funding environment. Since the approval of the proposal, the interdisciplinary areas have expanded from the original five programs to ten interdisciplinary programs. These interdisciplinary programs are broadly defined as follows.

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

**Mechanics** includes the theoretical and experimental study of the stresses, strains, and endurance of structural elements and various materials, mechanics of solids, fluids, solids, and composite materials.

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

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

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

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

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

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

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

**Microscale 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**

**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 requirements, passing a Candidacy Examination, presenting an acceptable Dissertation Proposal, writing a dissertation, and publicly and successfully (no “fail” votes) defending the dissertation before the Interdisciplinary Doctoral Committee.

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

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

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

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

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

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

**Admission Requirements**

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

**Degree Requirements**

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

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

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

**Joint program for the M.D. and Ph.D. in Engineering degree between the College of Engineering at The University of Akron and the Northeast Ohio Medical University**

The College of Engineering and NEOMED provide a coordinated program for those desiring both the M.D. and Ph.D. in Engineering degrees. This program integrates the knowledge and skills acquired by the student in each of the programs. Each individual coordinated degree program is tailored to suit the background and research interests of the student. Additional information may be obtained from The University of Akron Department of Biomedical Engineering or NEOMED.
Admission Requirements
Applicants with a bachelor’s or master’s degree in a discipline other than engineering or in engineering will be required to meet the Admission Requirements for the Doctor of Philosophy Degree in Engineering. Applicants will be required to have completed 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. Osteopathic Physics I and II
- Ph.D. Statics
- Ph.D. Dynamics
- Ph.D. Strength of Materials (or Material Science)
- Ph.D. Basic Electrical Engineering (or Circuits I & II)
- Ph.D. Calculus I, II, III, and Differential Equations

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

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

Admission Requirements
Applicants for any of these master of science programs must hold a bachelor’s degree from a program that is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology at the time of graduation, or provide evidence of an equivalent academic background to the Dean of the College of Engineering and the appropriate department chair.

Applicants must submit an official undergraduate transcript, undergraduate grade point average, 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 590 (paper-based) or 243 or take the Test of Written English (TWE). Applicants to the Department of Biomedical Engineering must have a TOEFL score of 550 (paper-based) or 213 (computer-based).

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

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

- Identify a three-member Advisory Committee including a major advisor before completion of 9 credit hours of coursework.
- Complete a formal Plan of Study that is acceptable to the Advisory Committee with a minimum of 24 credit hours of coursework of which no more than 6 credits are special topics courses. The formal Plan of Study may be revised upon approval of the Advisory Committee.
- Successfully (no “fail” votes) defend the thesis before the Advisory Committee, or have the Engineering Report approved by the Advisory Committee, or successfully complete the appropriate department’s nonthesis option requirements.

Master of Science in Chemical Engineering (420000MS: Non-thesis Option) (420000MST: Thesis Option)
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></td>
<td>Total</td>
<td>14</td>
</tr>
</tbody>
</table>

An overall GPA of 3.0 must be maintained for these courses. These graduate 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
4200:600 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
4200:607 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.

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

Five Year BS/MS Chemical Engineering Program (42001MS)
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: Non-thesis Option) (430000MST: Thesis Option)
Applicants with a bachelor’s degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of classical physics, and must select and complete undergraduate coursework from one of four undergraduate disciplines. These undergraduate engineering courses may be taken prior to graduate admission, or concurrently if the student has full admission or provisional admission, and is enrolled for at least 9 graduate credits.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:306</td>
<td>Theory of Structures</td>
<td>3</td>
</tr>
<tr>
<td>4300:313</td>
<td>Soil Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>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>Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>4300:361</td>
<td>Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300:401</td>
<td>Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:403</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total</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 6
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: Non-thesis Option) (440000MST: Thesis Option)
Applicants with a bachelor’s degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of classical physics, and must select and complete undergraduate coursework from one of four undergraduate disciplines. These undergraduate engineering courses may be taken prior to graduate admission, or concurrently if the student has full admission or provisional admission, and is enrolled for at least 9 graduate credits.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4400:360</td>
<td>Physical Electronics</td>
<td>3</td>
</tr>
<tr>
<td>4400:361</td>
<td>Electronic Design</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4400:360</td>
<td>Physical Electronics</td>
<td>3</td>
</tr>
<tr>
<td>4400:361</td>
<td>Electronic Design</td>
<td>4</td>
</tr>
</tbody>
</table>
the Master of Science in Engineering degree. Upon admission, the dean will appoint an advisory committee consisting of three faculty members who are selected from at least two different departments.

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

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

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

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

### Biomedical Engineering Specialization (460000MSE)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4800:601</td>
<td>Biomedical Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>4800:611</td>
<td>Biometry</td>
<td>3</td>
</tr>
<tr>
<td>3100:695</td>
<td>Physiology for Engineers and Lab</td>
<td>5</td>
</tr>
<tr>
<td>4800:612</td>
<td>Physiology for Engineers and Lab</td>
<td>5</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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6100:615</td>
<td>Elective Chemical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>6100:620</td>
<td>Strategic Marketing Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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

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

**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 Polymer 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>2</td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance</td>
<td>1</td>
</tr>
<tr>
<td>6500:652</td>
<td>Managing People in Organizations</td>
<td>1</td>
</tr>
<tr>
<td>6600:620</td>
<td>Strategic Marketing Management</td>
<td>1</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>6200:601</td>
<td>Financial Accounting</td>
<td>2</td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance</td>
<td>1</td>
</tr>
<tr>
<td>6500:652</td>
<td>Managing People in Organizations</td>
<td>1</td>
</tr>
<tr>
<td>6600:620</td>
<td>Strategic Marketing Management</td>
<td>1</td>
</tr>
</tbody>
</table>

### Elective

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

1. Engineering courses can be taken from any engineering department with approval of engineering advisor.
2. The Engineering Management Report must be approved by the advisor and Advisory Committee. One member of the committee shall be from the College of Business Administration.
3. More advanced graduate business courses shall be required of students who have completed similar undergraduate courses. This determination shall be made by the Assistant Dean and Director of Graduate Programs, College of Business Administration.
4. 6200:601 is a prerequisite for 6400:602.

### ENGINEERING 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 87 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

Doctor of Philosophy in Secondary Education

The Doctor of Philosophy 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 Academic Advisor
3. Completion of the Program Coursework (see course requirements below)
4. Written and Oral Comprehensive Examinations
   - These Comprehensive Examinations should be taken after the completion of the first two-thirds of coursework and prior to the completion of three-fourths of the program with the approval of the student’s advisor. Written and oral 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.
   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 the Ph.D. program that includes:
   a. Application to Graduate School.
   b. Official transcripts: undergraduate, master’s, certificate/licensure programs, and any previous doctoral study.
   c. 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.
   d. Agreement to Advise Form. Candidates are responsible for obtaining faculty sponsors to complete Agreement to Advise Form.
   e. Current vita.
   f. Three letters of academic reference.
4. Demonstration of doctoral level writing ability as evidenced by a Miller Analogy Test (MAT) score of 399 or higher or a 550 on the verbal portion of the Graduate Record Exam (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 at (330) 972-7765 for specific writing sample date(s).

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 adult 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 of 92 graduate credits including the doctoral dissertation. A student considered deficient in any area may be required to take additional courses.
- Completion of a foundation studies program designed to prepare the student before specialization.
- 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. Coursework 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 work. This letter shall present the advisor’s review of the academic integrity of the published article in terms of adequacy in meeting this requirement. A letter of acceptance for publication shall be considered as published.

Curricular and Instructional Studies Ph.D. Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5500.600</td>
<td>Concepts of Curriculum &amp; Instruction (or 5400xxx)</td>
<td>3</td>
</tr>
<tr>
<td>5500.605</td>
<td>Seminar in Trends and Issues in Curriculum &amp; Instruction (or 5400xxx)</td>
<td>3</td>
</tr>
<tr>
<td>5500.800</td>
<td>Professional Doctoral Seminar in Curricular and Instructional Studies</td>
<td>3</td>
</tr>
<tr>
<td>5500.880</td>
<td>Seminar in Curricular and Instructional Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

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

Social-Philosophical Foundations (15)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100.600</td>
<td>Philosophies of Education (or 602 or 604)</td>
<td>3</td>
</tr>
<tr>
<td>5100.620</td>
<td>Psychology of Instruction for Teaching and Learning (or 5100.624 or 5400.500)</td>
<td>3</td>
</tr>
<tr>
<td>5100.701</td>
<td>History of Education in American Society (or 5100.703)</td>
<td>3</td>
</tr>
<tr>
<td>5100.705</td>
<td>Seminar in Social/Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100.723</td>
<td>Teaching Behavior and Instruction (or 5100.721 or 710)</td>
<td>3</td>
</tr>
</tbody>
</table>

Research Foundations (18)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100.640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>5100.740</td>
<td>Research Design</td>
<td>3</td>
</tr>
<tr>
<td>5100.742</td>
<td>Data Collection Methods</td>
<td>3</td>
</tr>
<tr>
<td>5100.743</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100.744</td>
<td>Qualitative Methods I</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Seminar I: Exploratory/Qualitative</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Qualitative Methods II</td>
<td>3</td>
</tr>
</tbody>
</table>

5100.801 Seminar: Empirical or Seminar II: Ethnographic/Historical or Case Study Research or Legal Research and Writing or another advisor-approved course for 3 credits)

Students must take either 5100.744 and 5100.745 or 5100.801 and 5100.801.

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

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

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

Admission Requirements—College of Education Ph.D.

- A Graduate School application and an official transcript of all undergraduate and graduate coursework from each college or university attended must be completed and returned to the Graduate School.
- A minimum combined score on the Graduate Record Examination (GRE) General Test (verbal and quantitative sections) of 1100 is recommended.
- 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 preferred.
- 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:648</td>
<td>Individual and Family Life-Span Development</td>
<td>3</td>
</tr>
<tr>
<td>5100:743</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:747</td>
<td>Advanced Educational Statistics</td>
<td>3</td>
</tr>
<tr>
<td>5600:651</td>
<td>Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:675/676</td>
<td>Practicum in Counseling III</td>
<td>8</td>
</tr>
<tr>
<td>3750:610</td>
<td>Core I: Social Psychology</td>
<td>2</td>
</tr>
<tr>
<td>3750:620</td>
<td>Core II: Cognitive Psychology</td>
<td>2</td>
</tr>
<tr>
<td>3750:630</td>
<td>Core III: Individual Differences</td>
<td>2</td>
</tr>
<tr>
<td>3750:642</td>
<td>Core IV: Biopsychological Psychology</td>
<td>2</td>
</tr>
<tr>
<td>3750:650</td>
<td>Core V: Social-Cognitive Psychology</td>
<td>2</td>
</tr>
<tr>
<td>3750:750</td>
<td>Advanced Psychological Test and Measures</td>
<td>2</td>
</tr>
<tr>
<td>5600:702</td>
<td>Advanced Counseling Practicum I</td>
<td>4</td>
</tr>
<tr>
<td>5600:702</td>
<td>Advanced Counseling Practicum II</td>
<td>4</td>
</tr>
<tr>
<td>5600:707</td>
<td>Supervision in Counseling Psychology</td>
<td>4</td>
</tr>
<tr>
<td>5600:709</td>
<td>Introduction to Counseling Psychology</td>
<td>2</td>
</tr>
<tr>
<td>5600:710</td>
<td>Theories of Counseling and Psychotherapy</td>
<td>4</td>
</tr>
<tr>
<td>5600:711</td>
<td>Vocational Behavioral</td>
<td>4</td>
</tr>
<tr>
<td>5600:712</td>
<td>Principles and Practice of Intelligence Testing</td>
<td>4</td>
</tr>
<tr>
<td>5600:717</td>
<td>Professional, Ethical and Legal Issues in Counseling Psychology</td>
<td>4</td>
</tr>
<tr>
<td>5600:714</td>
<td>Objective Personality Evaluation</td>
<td>4</td>
</tr>
<tr>
<td>5600:715</td>
<td>Research Design in Counseling I</td>
<td>3</td>
</tr>
<tr>
<td>5600:717</td>
<td>Issues of Divinity in Counseling Psychology</td>
<td>4</td>
</tr>
<tr>
<td>5600:718</td>
<td>History and Systems in Psychology</td>
<td>2</td>
</tr>
<tr>
<td>5600:796</td>
<td>Counseling Psychology Practicum I</td>
<td>4</td>
</tr>
<tr>
<td>5600:796</td>
<td>Counseling Psychology Practicum II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Ph.D. in Counselor Education and Supervision (56000PHD: Counselor Education and Supervision)**

The doctoral program in Counselor Education and Supervision is designed for students who hold a master’s degree in counseling or a related field. The program has two tracks: (a) Counselor Education and Supervision (CES), and (b) Marriage and Family Counseling/Therapy (MFT/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 cognate/ elective option available to students allows some flexibility in designing a program that is consistent with their career goals. Each track requires completion of a residency year (the last year of course work); passing of the doctoral written and oral comprehensive examinations; and completion of a dissertation. With the proper selection of courses, graduates of the CES track can meet the requirements for licensure in Ohio as a Professional Clinical Counselor. With the proper selection of courses, graduates of the MFT/T track can meet the requirements for licensure in Ohio as a Professional Clinical Counselor, Marriage and Family Therapist, Clinical member of AAMFT, and AAMFT Approved Supervisor in Training.

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

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

**Admission Requirements**

- Graduate School Application
- Official undergraduate and graduate transcripts
- Official Graduate Record Examination (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>5100:735</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):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:702</td>
<td>Advanced Counseling Practicum</td>
<td>12</td>
</tr>
<tr>
<td>5600:710</td>
<td>Theories of Counseling and Psychotherapy</td>
<td>4</td>
</tr>
<tr>
<td>5600:669</td>
<td>System Theory in Family Therapy</td>
<td>3</td>
</tr>
<tr>
<td>5600:725</td>
<td>Doctoral Professional Seminar in Counseling Education</td>
<td>3</td>
</tr>
<tr>
<td>5600:730</td>
<td>Topical Seminar: Use of Assessment Data</td>
<td>4</td>
</tr>
<tr>
<td>5600:737</td>
<td>Clinical Supervision I</td>
<td>4</td>
</tr>
<tr>
<td>5600:738</td>
<td>Clinical Supervision II</td>
<td>4</td>
</tr>
<tr>
<td>XXXX</td>
<td>Cognates</td>
<td>6-10</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:785</td>
<td>Doctoral Internship</td>
<td>6</td>
</tr>
<tr>
<td>5600:785</td>
<td>Internship Marriage and Family</td>
<td>6</td>
</tr>
<tr>
<td>5600:667</td>
<td>Marital Therapy</td>
<td>3</td>
</tr>
<tr>
<td>5600:664</td>
<td>Counseling Theory (Individual)</td>
<td>3</td>
</tr>
<tr>
<td>5600:655</td>
<td>Marriage and Family Theory and Techniques</td>
<td>3</td>
</tr>
<tr>
<td>5600:645</td>
<td>Assessment</td>
<td>4</td>
</tr>
<tr>
<td>5600:647</td>
<td>Career Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:651</td>
<td>Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:705</td>
<td>Group Counseling</td>
<td>4</td>
</tr>
<tr>
<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>5600:646</td>
<td>Multicultural Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:648</td>
<td>Individual and Family Development</td>
<td>3</td>
</tr>
<tr>
<td>5600:664</td>
<td>DSM-IV</td>
<td>3</td>
</tr>
</tbody>
</table>

**Foundation coursework in Community, School, or Marriage and Family Counseling**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:675</td>
<td>Counseling Practicum (Community, School, or MFT)</td>
<td>5</td>
</tr>
<tr>
<td>5600:685</td>
<td>Counseling Internship (Community, School, or MFT)</td>
<td>3</td>
</tr>
<tr>
<td>5600:680</td>
<td>Counseling Children (Counselor Education Program only)</td>
<td>3</td>
</tr>
</tbody>
</table>

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 at (330) 972-7777 or 7779.

**Doctorate in Educational Leadership**

(Admissions to this program are currently suspended)

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**

- Application to Graduate School
The student must complete a minimum of nine credits in foundation studies in education requirements. No more than six credits of workshops or institutes can be used to satisfy degree requirements. The student must receive a pass grade on the license examination 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 must meet the general requirements for admission to the Graduate School and must be qualified to hold a standard teaching license for certain programs. 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. Students must demonstrate those verbal/written expression abilities necessary for successful progression through the program unless student is eligible for accommodations. 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:602</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Comparative and International Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Requirements**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:701</td>
<td>History of Education in American Society</td>
<td>3</td>
</tr>
<tr>
<td>5100:703</td>
<td>History and Philosophy of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:705</td>
<td>Seminar: Social-Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:710</td>
<td>Adult Learning, Development and Motivation</td>
<td>3</td>
</tr>
<tr>
<td>5100:721</td>
<td>Learning Processes</td>
<td>3</td>
</tr>
</tbody>
</table>

**Research (22)**

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

Students will select any combination of the following research courses for a minimum of 12 semester hours depending upon their research interests and career goals:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:740</td>
<td>Research Design</td>
<td>3</td>
</tr>
<tr>
<td>5100:741</td>
<td>Data Collection Methods</td>
<td>3</td>
</tr>
<tr>
<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:743</td>
<td>Advanced Educational Statistics</td>
<td>3</td>
</tr>
<tr>
<td>5100:801</td>
<td>Research Seminar: Exploratory/Qualitative</td>
<td>3</td>
</tr>
<tr>
<td>5100:801</td>
<td>Research Seminar: Ethnographic/Historical</td>
<td>3</td>
</tr>
<tr>
<td>5100:801</td>
<td>Research Seminar: Case Study Research</td>
<td>3</td>
</tr>
<tr>
<td>5100:801</td>
<td>Research Seminar: Legal Research and Writing</td>
<td>3</td>
</tr>
<tr>
<td>5100:801</td>
<td>Research Seminar: Empirical Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

**Educational Administration (35)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5170:704</td>
<td>Advanced Study in Educational Leadership</td>
<td>3</td>
</tr>
<tr>
<td>5170:705</td>
<td>Decision Making in Educational Leadership</td>
<td>3</td>
</tr>
<tr>
<td>5170:708</td>
<td>Economics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5170:716</td>
<td>Advanced Evaluation of Educational Organizations</td>
<td>3</td>
</tr>
<tr>
<td>5170:730</td>
<td>Residency Seminar</td>
<td>3</td>
</tr>
<tr>
<td>5170:732</td>
<td>Public and Media Relations in Educational Organizations</td>
<td>3</td>
</tr>
<tr>
<td>5170:745</td>
<td>Seminar: Urban Educational Issues</td>
<td>3</td>
</tr>
<tr>
<td>5170:746</td>
<td>Politics of Education</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:710</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5170:720</td>
<td>6</td>
</tr>
<tr>
<td>or</td>
<td>5170:795</td>
<td>5</td>
</tr>
</tbody>
</table>

**Cognate (12)**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Electives</td>
<td>90</td>
</tr>
</tbody>
</table>

**M A S T E R ’ S D E G R E E S**

Programs leading to the degree of M.A. in Education or M.S. in Education.

The student who expects to earn the master's degree must meet the general requirements for admission to the Graduate School and must be qualified to hold a standard teaching license for certain programs. 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. Students must demonstrate those verbal/written expression abilities necessary for successful progression through the program unless student is eligible for accommodations. 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:602</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:604</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:620</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:624</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>5100:640</td>
<td>3</td>
</tr>
</tbody>
</table>

*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 Clinical Mental Health Counseling are accepted on a rolling basis. Applicants are strongly urged to apply as early as possible. For applicants who have complete application materials on file and who are selected for an interview, admission interviews usually begin in January for fall admission cohort and September for spring admission cohort. New admits will not be accepted once the program reaches cohort capacity.

The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Council for Higher Education Accreditation (CHEA), has conferred accreditation on the Clinical Mental Health, 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 (COAMFTE).

**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
  - Humanistic Foundations
    - 5100:600 Philosophies of Education | 3
  - 5100:604 Topical Seminar in the Cultural Foundations of Education | 3
  - 5600/5100:646 Multicultural Counseling | 3
  - Research
    - 5100:640 Techniques of Research | 3

Minimum Foundation Credit Hours Required: 9

**Required Program Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:631</td>
<td>Elementary/Secondary School Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:647</td>
<td>Career Development and Counseling Across the Lifespan</td>
<td>3</td>
</tr>
<tr>
<td>5600:645</td>
<td>Tests and Appraisal in Counseling</td>
<td>4</td>
</tr>
<tr>
<td>5600:610</td>
<td>Counseling Skills for Teachers</td>
<td>3</td>
</tr>
<tr>
<td>5600:653</td>
<td>Developmental Guidance and Emotional Education</td>
<td>3</td>
</tr>
<tr>
<td>5600:695</td>
<td>Field Experience (MUST be taken before or concurrently with 663)</td>
<td>1</td>
</tr>
<tr>
<td>5610:540</td>
<td>Developmental Characteristics of Exceptional Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610:604</td>
<td>Collaboration and Consultation Skills for Special Educators</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum Semester Hours Required for Program: 20

**Area of Concentration**

An area of concentration with a minimum of six credit 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 Administrators
- Curriculum and Instruction
Clinical Mental Health Counseling (560005MA) (560005MS)

The Clinical Mental Health Counseling master's program provides graduate-level training in the art and science of mental health in order to produce Professional Counselors/Professional Clinical Counselors who effectively enhance the lives of individuals, groups, and communities. The degree leads to professional identity founded on a holistic perspective, knowledge about bi-psycho-social causes of distress, and social/occupational impairments, skills related to human development as well as the treatment of psychopathology and competence in advocacy and outreach.

- **Foundations Courses**
  - 5600:648 Individual and Family Development 3
  - 5600:646 Multicultural Counseling 3
  - 5100:640 Techniques of Research 3
  - Subtotal 9

- **Required Counseling Core Courses**
  - 5600:600 Seminar in Counseling 1
  - 5600:635 Community Counseling 3
  - 5600:643 Counseling Theory & Philosophy 3
  - 5600:647 Career Development and Counseling Across the Lifespan 3
  - 5600:645 Tests and Appraisal in Counseling (prerequisite: 5600:640) 4
  - 5600:651 Techniques of Counseling 3
  - 5600:653 Group Counseling (prerequisites: 5600:651 and 5600:643) 3
  - 5600:675 Practicum in Counseling**‡ (prerequisite: 5600:653) 5
  - 5600:685 Internship in Counseling† (prerequisite: 5600:675) 6
  - Subtotal 32

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

- **Clinical Counseling Component**
  - 5600:662 Personality and Abnormal Behavior 3
  - 5600:714 Objective Personality Evaluation 4
  - 5600:694 DSM IV 3
  - 5600:668 Treatment in Clinical Counseling 3
  - Also, choose one of the following three credit courses:
    - 5600:621 Counseling Youth at Risk 3
    - 5600:622 Play Therapy 3
    - 5600:655 Marriage and Family Therapy: Theory and Techniques 3
    - 5600:660 Counseling Children 3
    - 5600:734 Addiction Counseling II: Treatment Planning and Intervention Strategies 3

  - Minimum Semester Hours Required for Degree 60

- **Area VI: Additional CACREP Core Counseling Courses**
  - 5600:656 Addictions Counseling 3

- **Area V: Research**
  - 5100:640 Research Methods 3

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

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

- **Area II: Clinical Practice**
  - 5600:667 Marital Therapy (prerequisites: 5600:655 and 5600:669) 3
  - 5600:646 Multicultural Counseling (Ed Foundations) 3
  - 5600:651 Techniques of Counseling (register for MCFT section) (prerequisite: 5600:655; corequisite: 5600:669; prerequisite or corequisite: 5600:643) 3
  - 5600:653 Group Counseling (prerequisite: 5600:651) 4

- **Area I: Theoretical Foundations**
  - 5600:655 Marriage and Family Therapy: Theories and Techniques 3
  - 5600:669 Systems Theory in Family Therapy 3

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

- 5600:663 Developmental Guidance and Emotional Education 3
- 5600:695 Field Experience: Master's 1

Minimum Semester Hours Required for Degree 35

Marriage and Family Counseling/Therapy (560009MA) (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
  - 5600:646 Multicultural Counseling (Ed Foundations) 3
  - 5600:651 Techniques of Counseling (register for MCFT section) 3
  - 5600:653 Group Counseling (prerequisite: 5600:651) 4
  - 5600:664 DSM IV 3

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

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

- **Area V:** Research
  - 5100:640 Research Methods 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
The University of Akron 2012-2013

School Psychologist*
(Admissions to this program currently suspended)

- **College requirements:**
  
  5100:640 Techniques of Research 3
  5620:694 Research Project 2
  or
  5620:698 Master’s Problem 2-4
  or
  5620:699 Master’s Thesis 4-6
  
  **Departmental requirements:**
  
  5600:643 Counseling: Theory and Philosophy 3
  
  **Program requirements:**
  
  3750:530 Psychological Disorders of Childhood 4
  3750:700 Survey of Projective Techniques 4
  3750:712 Principles and Practice of Individual Intelligence Testing 4
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:624 Seminar in Human Learning 3
  5100:741 Statistics in Education 3
  5620:600 Seminar: Role and Function of School Psychology 3
  5620:602 Behavioral Assessment 3
  5620:610 Educational Diagnosis for the School Psychologist 4
  
  **Sixth-Year School Psychology Master’s Degree and Certification Program**
  
  **Foundations requirements:**
  
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3
  5100:741 Statistics in Education 3
  
  **Professional requirements:**
  
  3750:700 Survey of Projective Techniques 4
  3750:530 Psychological Disorders of Childhood 4
  3750:712 Principles and Practice of Individual Intelligence Testing 4
  5600:643 Counseling: Theory and Philosophy 3
  5620:600 Seminar: Role and Function of School Psychology 3
  5620:602 Behavioral Assessment 3
  5620:610 Educational Diagnosis for the School Psychologist 4
  5620:694 Research Project in Special Area 2-3
  or
  5620:698 Master’s Problem 2-4
  or
  5620:699 Master’s Thesis 4-6

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

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

**A minimum of 500 client contact hours must be completed to graduate from the program.

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

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 foundation courses in education and in curriculum and instruction and courses for an area of concentration.

**Admission Requirements:**

- Applications to the master’s program in Elementary Education must be completed and submitted at least six weeks (domestic) or six months (international) before the beginning of the term for which admission is sought in order to allow for adequate processing time. Contact the College of Education Office of Student Services at (330) 972-7750.

**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

The area of concentration may contain advisor approved courses in mathematics, English, foreign language, visual arts, or secondary education provided that the coursework offers a cohesive concentration and contributes to the preparation of an educator at the advanced/master’s level within curriculum and instruction.

- 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

- Minimum credit hours for degree: 36

  *Special cohort master’s programs may be created to reflect the immediate needs of a cohort group.

**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 foundation courses in education and in curriculum and instruction and courses for an area of concentration in literacy education.

**Admission Requirements**

Applications to the master’s program in Elementary Education with Literacy Option must be completed and submitted at least six weeks (domestic) or six months (international) before the beginning of the term for which admission is sought in order to allow for adequate processing time. Contact the College of Education Office of Student Services at (330) 972-7750.

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.

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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>5200:630</td>
<td>Elementary School Curriculum and Instruction</td>
<td>2</td>
</tr>
<tr>
<td>5620:695/696</td>
<td>Field Experience: Master’s</td>
<td>3</td>
</tr>
<tr>
<td>5700:631</td>
<td>Elementary School Administration</td>
<td>3</td>
</tr>
<tr>
<td>5170:601</td>
<td>Principles of Educational Administration</td>
<td>3</td>
</tr>
</tbody>
</table>

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

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

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

- 5200:630 Elementary School Curriculum and Instruction 2
- 5620:695/696 Field Experience: Master’s 3
- 5700:631 Elementary School Administration 3
- 5170:601 Principles of Educational Administration 3
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
  5500:627 Special Topics in Curricular & Instr. Studies: Teaching Young Adult Literature 3
  5500:522 Content Area Literacy 3
  5500:626 Assessment of Reading Difficulties 3
  5500:524 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
  Option 2: 5500:696 Master’s Project (with advisor’s permission) 6
  Option 3: 5500:699 Master’s Thesis (with advisor’s permission) 6

- Minimum credit hours required for degree: 36

*If seeking a literacy endorsement, a valid teaching license, completion of 18 credit hours in reading and a passing score on Praxis II: introduction to the Teaching of Reading (0204) are required.

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 courses for an area of concentration such as English, mathematics, or secondary education.

Admission Requirements

Applications to the master’s program in Secondary Education must be completed and submitted at least six weeks (domestic) or six months (international) before the beginning of the term for which admission is sought in order to allow for adequate processing time. Contact the College of Education Office of Student Services at (330) 972-7750.

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
  5500:605 Seminar in Trends and Issues in Curriculum and Instruction 3
  or
  5500:60x a course that cuts across curriculum and instruction (as approved by advisor)

- Area of Concentration – 15 credits
  The area of concentration may contain advisor approved courses in mathematics, English, foreign language, visual arts, or secondary education provided that the coursework offers a cohesive concentration and contributes to the preparation of an educator at the advanced/master’s-level within curriculum and instruction.

- Master’s Project/Thesis Options - 6 credits
  Option 1: 5500:690 Master’s 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

- Minimum credit hours required for degree: 36

*If seeking a literacy endorsement, a valid teaching license, completion of 18 credit hours in reading and a passing score on Praxis II: introduction to the Teaching of Reading (0204) are required.

Special Education (M.A.)
(561000MAE)

The 30-33 hour graduate program in special education is designed for those individuals who currently hold an undergraduate degree and Intervention Specialist licensure. The program is divided into three options. The first option (Option I) is

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

(Admissions to this program are currently suspended)

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

- Educational Foundations – 10 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
  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 011) 1
  5500:575 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.

Minimum credit hours required for degree: 36
for individuals seeking only a Masters in Special Education. The second option (Option II) contains coursework providing focus on Pervasive Developmental Disabilities/Autism. The third option (Option III) provides specific coursework designed to focus on providing behavioral support in the school setting. Completion of the Master’s of Arts program does not lead to licensure in special education.

**Admission Requirements**

Applications to the master’s program in Special Education must be completed and submitted at least six weeks (domestic) or six months (international) before the beginning of the term for which admission is sought in order to allow for adequate processing time.

**Degree Requirements**

- Educational Foundations core (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/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
- 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 for degree 30

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

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

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

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

- Integrated Social Studies
- Integrated Language Arts
- Life 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
- Dramatic/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.

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 Teacher Education Program:

- Completed teacher education program application
- Competency in reading comprehension, writing, and mathematics as evidenced by an earned bachelor’s degree from an accredited college or 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) 972-7750 or visit the following for more information:

http://www.uakron.edu/education/academic-programs/CIS/how-to-apply.dot

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 Ohio Standards for the Teaching Profession, Specialized Professional Association Standards. Advanced Programs for practicing teachers are aligned with the Ohio Standards for the Teaching Profession. Specific key assessments embedded in coursework must be completed to demonstrate that students meet these standards. For more complete information about the teacher education program please consult the College of Education Office of Student Services at (330) 972-7750.

**Program**

- Educational Foundations Courses (10 credits):
  - 5100:604 Topical Seminar in the Cultural Foundations of Education 3
  - 5100:620 Psychology of Instruction for Teaching and Learning 3
  - 5100:642 Introduction to Classroom Assessment for Teacher 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 (530709MSEd)**

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (20 credits):
  - 5500:575 Instructional Technology Applications 3
  - 5500:617 Licensure Seminar in Curriculum 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
  - 5500xxx 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 (c) 8
    - 5500:692 Field Experience: Colloquium 1

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):**
  - 5500:575 Instructional Technology Applications
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521)
  - 5500:521 Field Experience: Advanced Instructional Techniques
  - 5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011)
  - 5500:693 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:xxx Elective in curriculum or teaching practices approved by advisor

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

- **Field Experience (Student Teaching) (9 credits):**
  - 5500:694 Field Experience: Classroom Instruction (c)
  - 5500:692 Field Experience: Colloquium

Minimum credits required for degree: 48

### 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
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521)
  - 5500:521 Field Experience: Advanced Instructional Techniques
  - 5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011)
  - 5500:693 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:xxx Elective in curriculum or teaching practices approved by advisor

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

- **Field Experience (Student Teaching) (9 credits):**
  - 5500:694 Field Experience: Classroom Instruction (c)
  - 5500:692 Field Experience: Colloquium

Minimum credits required for degree: 48

### Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life Science Licensure (530810MSED)

- **Educational Foundations Courses (10 credits):**
- **Curricular and Instructional Studies (20 credits):**
  - 5500:575 Instructional Technology Applications
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521)
  - 5500:521 Field Experience: Advanced Instructional Techniques
  - 5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011)
  - 5500:693 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:xxx Elective in curriculum or teaching practices approved by advisor

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

- **Field Experience (Student Teaching) (9 credits):**
  - 5500:694 Field Experience: Classroom Instruction (c)
  - 5500:692 Field Experience: Colloquium

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
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521)
  - 5500:521 Field Experience: Advanced Instructional Techniques
  - 5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011)
  - 5500:693 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:xxx Elective in curriculum or teaching practices approved by advisor

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

- **Field Experience (Student Teaching) (9 credits):**
  - 5500:694 Field Experience: Classroom Instruction (c)
  - 5500:692 Field Experience: Colloquium

Minimum credits required for degree: 48

### Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Life Sciences and Physics Licensure (530507MSED)

- **Educational Foundations Courses (10 credits):**
- **Curricular and Instructional Studies (20 credits):**
  - 5500:575 Instructional Technology Applications
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521)
  - 5500:521 Field Experience: Advanced Instructional Techniques
  - 5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011)
  - 5500:693 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:xxx Elective in curriculum or teaching practices approved by advisor

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

- **Field Experience (Student Teaching) (9 credits):**
  - 5500:694 Field Experience: Classroom Instruction (c)
  - 5500:692 Field Experience: Colloquium

Minimum credits required for degree: 48

### Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Physics Licensure (530612MSED)

- **Educational Foundations Courses (10 credits):**
- **Curricular and Instructional Studies (20 credits):**
  - 5500:575 Instructional Technology Applications
  - 5500:617 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:520 Advanced Instructional Techniques (taken in conjunction with 5500:521)
  - 5500:521 Field Experience: Advanced Instructional Techniques
  - 5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011)
  - 5500:693 Licensure Seminar in Curricular and Instructional Studies (a)
  - 5500:629 Reading Programs in Secondary Schools
  - 5500:xxx Elective in curriculum or teaching practices approved by advisor

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

- **Field Experience (Student Teaching) (9 credits):**
  - 5500:694 Field Experience: Classroom Instruction (c)
  - 5500:692 Field Experience: Colloquium

Minimum credits required for degree: 48
Option in Adolescent to Young Adult (AYA) Education (grades 7-12): Chemistry Licensure (530613MSED)
- 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):
  - 5500:590 Nature, History, and Philosophy of Science 3
  - 3010:695 Field Studies in Environmental Science 3
  - Select 3 credits at 500-level or above in teaching field or chemistry 3
- Field Experience (Student Teaching) (9 credits):
  - 5500:694 Field Experience: Classroom Instruction (c) 8
  - 5500:692 Field Experience: Colloquium 1
  - 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 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 (c) 8
  - 5500:692 Field Experience: Colloquium 1
  - 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 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 (c) 8
  - 5500:692 Field Experience: Colloquium 1
  - Minimum credits required for degree: 48

Option in Multi-Age (grades P-12) Education: Foreign Language French Licensure (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 Multiage 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):
  - Teacher candidates must achieve the minimum levels of Advanced Low on the Oral Proficiency Test (OPT) and Advanced Low on the Written Proficiency Test (WPT) prior to student teaching.
  - 5500:694 Field Experience: Classroom Instruction (c) 6
  - 5500:694 Field Experience: Classroom Instruction (c) 5
  - 5500:692 Field Experience: Colloquium 1
  - Minimum credits required for degree: 50

Option in Multi-Age (grades P-12) Education: Foreign Language Spanish Licensure (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 Multiage 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):
  - Teacher candidates must achieve the minimum levels of Advanced Low on the Oral Proficiency Test (OPT) and Advanced Low on the Written Proficiency Test (WPT) prior to student teaching.
  - 5500:694 Field Experience: Classroom Instruction (c) 6
  - 5500:694 Field Experience: Classroom Instruction (c) 5
  - 5500:692 Field Experience: Colloquium 1
  - Minimum credits required for degree: 50
Option in Multi-Age (grades P-12) Education: Visual Arts Licensure (530601MSED)

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (19 credits):
  5500:617 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5550:555 Literacy for Multilanguage Licensure 3
  7100:510 Methods of Teaching Elementary Art (Fall Only) 2
  7100:511 Methods of Teaching Secondary Art (Spring Only) 3
- Field Experience (Student Teaching) (12 credits):
  5500:694 Field Experience: Classroom Instruction (c) 6
  5500:692 Student Teaching Colloquium 6
- Area of Concentration (15):
  7100:593 Advanced Seminar in Art Education 3
  7100:594 Selected Topics: Art Education 6
  7100:5xx Advanced Art Elective 6
- Electives (6 credits):
  Select six credits in 5550 or
  5500:600 Concepts of Curriculum and Instruction 3
  5500:605 Seminar in Trends and Issues in Curriculum and Instruction 3
- Field Experience (Student Teaching) (10 credits):
  5550:594 Practicum: Student Teaching 8
  5550:594 Student Teaching Colloquium 2
- Minimum credits required for degree: 56

Option in Multi-Age (grades P-12) Education: Physical Education Licensure (530614MSED)

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (13 credits):
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5550:555 Literacy for Multilanguage Licensure 3
- Area of Concentration (9):
  5550:547 Instructional Techniques for Children in Physical Education 3
  5550:546 Instructional Techniques for Secondary Physical Education 3
  5550:552 Foundations of Sport Science, Physical and Health Education 3
- Electives (6 credits):
  Select six credits in 5550 or
  5500:600 Concepts of Curriculum and Instruction 3
  5500:605 Seminar in Trends and Issues in Curriculum and Instruction 3
- Field Experience (Student Teaching) (10 credits):
  5550:594 Practicum: Student Teaching 8
  5550:594 Student Teaching Colloquium 2
- Minimum credits required for degree: 48

Option in Career-Technical Education: Family and Consumer Sciences Licensure (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):
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  5500:619 Instructional and Management Practices (taken in conjunction with 5500:693-011) 3
  5550:555 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
- Field Experience (Student Teaching) (9 credits):
  5500:694 Field Experience: Classroom Instruction (c) 8
  7400:598 Student Teaching Seminar 1
- Minimum credits required for degree: 48

Option in Multi-Age (P-12) Education: Drama Licensure (530602MSED)

Contact Program Coordinator in Theatre Arts, Guzzetta Hall 394

- Educational Foundations Courses (10 credits)
- Curricular and Instructional Studies (21 credits):
  5500:575 Instructional Technology Applications 3
  5500:617 Licensure Seminar in Curricular and Instructional Studies (a) 3
  7800:572 Methods of Teaching Elementary Theatre Arts 3
  7800:573 Methods of Teaching Secondary Theatre Arts 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:xxx Elective in curriculum or teaching practices approved by advisor 2
- Area of Concentration (9):
  Select 9 credits with advisor approval
- Field Experience (Student Teaching) (9 credits):
  5500:694 Field Experience: Classroom Instruction (c) 8
  5500:692 Student Teaching Colloquium 1
- 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 3
- Area of Concentration (26 credits):
  5610:540 Individuals with Exceptionalities: Educational and Societal Issues 3
  5610:547 Developmental Characteristics of Mild/Moderate Educational Needs 4
  5610:567 Management Strategies 3
  5610:604 Collaboration and Consultation 3
  5610:563 Assessment in Special Education 3
  5610:552 Special Education Programming: Secondary/Transition 3
  5610:551 Special Education Programming: Mild/Moderate I 3
  5610:557 Special Education Programming: Mild/Moderate II 3
  5610:559 Field Experience: Student Teaching and Practicum (14 credits) or Master’s Project and Practicum (6 credits):
    5610:690 Student Teaching: Special Education 11
    5610:570 Practicum 3
    or
    5610:694 Master’s Project 3
    5610:570 Practicum 3
- Minimum credits required for degree: 45-53

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 3
- Area of Concentration (27 credits):
  5610:540 Individuals with Exceptionalities: Educational and Societal Issues 3
  5610:548 Developmental Characteristics of Moderate/Intensive Educational Needs 4
  5610:567 Management Strategies 3
  5610:604 Collaboration and Consultation Skills for Special Educators 3
  5610:563 Assessment in Special Education 3
  5610:552 Special Education Programming: Secondary/Transition 3
  5610:553 Special Education Programming: Moderate/Intensive I 4
  5610:554 Special Education Programming: Moderate/Intensive II 4
  5610:559 Field Experience: Student Teaching and Practicum (14 credits) or Master’s Project and Practicum (6 credits):
    5610:690 Student Teaching: Special Education 11
    5610:570 Practicum 3
    or
    5610:694 Master’s Project 3
    5610:570 Practicum 3
- Minimum credits required for degree: 46-54

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 3
- Area of Concentration (26 credits):
  5610:540 Individuals with Exceptionalities: Educational and Societal Issues 3
  5610:548 Developmental Characteristics of Moderate/Intensive Educational Needs 4
  5610:567 Management Strategies 3
  5610:604 Collaboration and Consultation Skills for Special Educators 3
- Minimum credits required for degree: 46-54

Graduate Studies 61
5610:564 Assessment and Evaluation in Early Childhood Special Education 3
5610:550 Special Education Programming: Early Childhood 3
5610:553 Special Education Programming: Moderate/Intensive I 4
5610:561 Special Education Programming: Early Childhood Moderate/Intensive 3

• Field Experience: Student Teaching and Practicum (14 credits) or Master’s Project and Practicum (6 credits):
  5610:690 Student Teaching: Special Education 11
  5610:570 Practicum 3
  or
  5610:694 or Master’s Project 3
  5610:570 Practicum 3

Minimum credits required for degree 45-53

(a) Prerequisite: Admission to the Master’s with Licensure program and teacher education program
(b) Prerequisite: Approval of Student Teaching Committee, based upon approved application to student teaching, passing PRAXIS II subject test, and approved portfolio

Teaching Field Requirements
Candiates in the Master’s with Licensure program must also meet teaching field requirements as established by departmental faculty and approved by the appropriate specialized professional associations and the Ohio Board of Regents. For additional information about specific program requirements please consult the Office of Student Services at (330) 972-7750.

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

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

Student teaching is a full-time opportunity that provides candidates with an intensive and extensive culminating clinical experience in an approved public or private school for either twelve weeks (adolescent to young adult) or sixteen weeks (intervention specialist, multi-age, or vocational family and consumer science licensure). Candidates are immersed in the learning community and are provided opportunities to develop and demonstrate competence in the professional roles for which they are preparing. Placements are made in appropriate sites at the discretion of the Office of Student Teaching and Field Experiences in consultation with program faculty and district leaders. All students must have approval of the Student Teaching Committee to be placed for student teaching. Committee approval is required 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 Educational Administration master’s degree are listed below.

General Administration (Standard Program)
(570100MA) (570100MS)

(Admissions to this program are currently suspended)

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

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

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

Total: 33 credits

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

The Principalship
(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 to the master’s program in Principalship must be completed and submitted at least six weeks (domestic) or six months (international) before the beginning of the term for which admission is sought in order to allow for adequate processing time.

Degree Requirements:
• Foundation Studies (9)
  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

• Educational Leadership Core (21)
  5170:601 Organizational Leadership 3
  5170:604 School Contexts and Community Involvement 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 Principalship Licensure Program is an option in educational administration designed to prepare a candidate for an Ohio license to practice as a school principal and is built on two components: the Principalship master’s degree and those post-master’s courses listed below.

The Principalship master’s degree program and the post-master’s licensure courses have been aligned with the Educational Leadership Constituents Council (ELCC) standards specific key assessments embedded in coursework and must be completed to demonstrate that students meet these standards.

Post-Master’s Licensure Courses – 12 credits:
  5170:602 Management of Physical Resources 3
  5170:603 Management of Human Resources 3
  5170:695/696 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
(570066MA) (570066MS)
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 this program are currently suspended)

• Foundation Studies – 18 credits:
  5100:600 Philosophies of Education 3
  or
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 School Culture and Governance 3
  or
  5100:624 Seminar: Educational Psychology 3

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 Specialist: Educational Staff Personnel Administration

(Admissions to this program are currently suspended)

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

• Educational Administration – 21 credits:
  5170:601 Organizational Leadership 3
  5170:603 Management of Human Resources 3
  5170:604 School-Community Relations 3
  5170:606 Evaluation in Educational Organizations 3
  5170:607 School Law 3
  5170:608 School Finance and Economics 3
  5170:704 Advanced Organizational Leadership 3
  5170:707 The Superintendent 3
  5170:743 Advanced Educational Statistics 3

• Post-Master’s Requirements – 14 credits:
  5170:704 Advanced Organizational Leadership 3
  5170:707 The Superintendent 3
  5170:743 Advanced Educational Statistics 3
  5170:795/6 Internship* 4
  5100:601 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: Instructional Services (Curriculum, Instruction, and Professional Development)

(Admissions to this program are currently suspended)

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

• Educational Administration – 21 credits:
  5170:601 Organizational Leadership 3
  5170:603 Management of Human Resources 3
  5170:604 School-Community Relations 3
  5170:606 Evaluation in Educational Organizations 3
  5170:607 School Law 3
  5170:608 School Finance and Economics 3
  5170:704 Advanced Organizational Leadership 3
  5170:707 The Superintendent 3
  5170:743 Advanced Educational Statistics 3

• Post-Master’s Requirements – 13 credits:
  5170:601 Organizational Leadership 3
  5170:604 Topical Seminar in the Cultural Foundations of Education 3
  5100:620 School Culture and Governance 3
  5170:607 School Law 3
  5170:608 School Finance and Economics 3
  5170:704 Advanced Organizational Leadership 3
  5170:707 The Superintendent 3

Administrative Specialist: Pupil Personnel Administration

(Admissions to this program are currently suspended)

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

• Educational Administration – 21 credits:
  5170:601 Organizational Leadership 3
  5170:603 Management of Human Resources 3
  5170:606 Evaluation in Educational Organizations 3
  5170:607 School Law 3
  5170:608 School Finance and Economics 3
  5170:613 Student Services and Interagency Collaboration 3
  5170:707 The 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
  5170:795/6 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 this program are 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
5170:795/796 Superintendent Internship 3

To obtain a license to practice the work of a school superintendent in the State of Ohio, through the College of Education, the candidate will have a total of 60 post-baccalaureate hours, a master’s degree, three years of experience practicing under a valid principal license, completion of a supervised two-semester internship, successful passage of the state licensing examination, and good moral character.
Higher Education Administration (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 (GRE) 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 (3 credits):
  5100:640 Techniques of Research 3

• Required courses (33 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
  5190:615 Historical Foundations of American 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
  5190:590 Workshop 3-6
  5190:635 Instructional Strategies and Techniques for the College Instructor 3

Students must successfully complete a master’s comprehensive examination for the Educational Administration-Higher Education Option.

Educational Foundations (M.A.)

Specialized Options:

• Instructional Technology
• Educational Psychology (admissions suspended)
• Social/Philosophical Foundations of Education
• 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 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 must 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 36 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 demonstrating 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
  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)
  5150:590, 591 Workshop: Instructional Technology (permission) 1-3
  5150:632 Web-Based Learning Systems 3 (required for Technology Facilitation Endorsement)
  5150:639 Strategies for Online Teaching and Learning 3
  5150:635 Emerging Technologies in Instruction 3
  5150:696 Master’s Technology Project 3

Total: 30 credits

Technology Facilitation Endorsement (K-12 Computer Technology Endorsement)

The Graduate K-12 Computer Technology (Technology Facilitation Endorsement) is 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, the Graduate K-12 Computer Technology Endorsement. Specific key assessments in coursework must be completed to demonstrate that students meet these standards. This endorsement follows the ISTE TEEF 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.

• Foundation Studies (9 credits)
  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 to this program are currently 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

• Electives (15-21 hours)
  5150:624 Seminar: Educational Psychology (may be repeated for up to 6 credits) 3
  5100:604 Topical Seminar in the Cultural Foundations of Education 3
Program for those with a B.S. in Teaching and Training Technical Professionals

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<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>5100:540</td>
<td>Techniques of Research</td>
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<tr>
<td>5400:580</td>
<td>Special Topics: Workforce Education/Training</td>
<td>1-3</td>
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<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
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<td>5100:642</td>
<td>Introduction to Classroom Assessment for Teachers</td>
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Total: 30 credits

Program for those without a B.S. in Teaching and Training Technical Professionals

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<td>Strategies for Online Teaching and Learning</td>
<td>3</td>
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<td>5400:600</td>
<td>The Two-Year College</td>
<td>3</td>
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<td>5400:605</td>
<td>Advanced System Design: Needs Assessment and Evaluation</td>
<td>3</td>
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<td>5400:620</td>
<td>Postsecondary Teacher Leadership</td>
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<td>5400:660</td>
<td>Postsecondary Distance Learning</td>
<td>3</td>
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<tr>
<td>5400:698</td>
<td>Master's Problem</td>
<td>6</td>
</tr>
<tr>
<td>5400:699</td>
<td>Master's Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

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. Applications for all master's degree programs in the Department of Sport Science and Wellness Education must be completed and submitted at least six weeks (domestic) or six months (international) before the beginning of the term for which admission is sought in order to allow for adequate processing time.

**Outdoor Education (556000MA) (556000MS)**

(Admissions to this program are 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**: 9 credits
  - 5100:640 Techniques of Research
  - 5400:580 Special Topics: Workforce Education/Training
  - 5100:642 Introduction to Classroom Assessment for Teachers

Remaining six (6) credits to be chosen, with approval of advisor, from 5100:5xx or 5100:6xx course offerings or 5550:606 Statistics: Qualitative and Quantitative Methods.

- **Required courses**: 6 credits
  - 5560:550 Application of Outdoor Education to the School Curriculum
  - 5560:552 Resources and Resource Management for the Teaching of Outdoor Education

- **Outdoor Pursuits**: 4 credits

- **Outdoor Education: Special Topics**: 2-4 credits

- **Outdoor Education: Rural Influences**: 3 credits

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**Technical Professionals**

Applications are accepted on a rolling basis.

**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 Teaching and Training Technical Professionals. Applications are accepted on a rolling basis.

- **Outside Department Requirements (6 hours)**
  - 5610:540 Developmental Characteristics of Exceptional Individuals
  - 5500:780 Seminar in Curricular and Instructional Studies (Cooperative Learning)

**Social/Philosophical Foundations of Education Option (30 credits) (510003MA)**

This interdisciplinary graduate program is designed to facilitate professional educators’ developing critical, interpretative, and normative perspectives of the interrelations between educational institutions and society. This program includes the academic disciplines of anthropology of education, comparative/international education, cultural studies in education, history of education, philosophy of education, and sociology of education. Students collaborate with their advisors in selecting one or more of the above disciplines to create a graduate program tailored to their needs, interests, and professional aspirations. Students may be either encouraged or required to study with faculty in other departments or institutions to develop interdisciplinary programs and perspectives.

Graduates of the program can earn a Master of Arts in Education degree in preparation for careers in both traditional and non-traditional educational settings and for further doctoral study in anthropology of education, comparative/international education, cultural studies in education, history of education, philosophy of education, and sociology of education. Graduates are more employable in positions that require in-depth understanding of the broader social contexts of educational policy.

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

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

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

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.

**Assessment and Evaluation Option (30 credits) (510004MA)**

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
  - 5100:624 Seminar: Educational Psychology
  - 5100:640 Techniques of Research

- **Required Courses (21 hours)**
  - 5100:642 Introduction to Classroom Assessment
  - 5100:650 Implementing Assessment Techniques in the Classroom
  - 5100:651 Data-Driven Decision Making for Educators
  - 5100:652 Introduction to Educational Evaluation
  - 5100:653 Practical Applications of Educational Evaluation
  - 5100:654 Master’s Project in Assessment and Evaluation: Part 1
  - 5100:655 Master’s Project in Assessment and Evaluation: Part 2

- **30 total hours are required.**
- **A portfolio is required.**

**Teaching and Training Technical Professionals**

The major objective of the teaching and training technical professionals 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 Teaching and Training Technical Professionals. Applications are accepted on a rolling basis.

- **Foundation Studies – 9 credits:**
  - 5100:540 Topical Seminar in Cultural Foundations
  - 5400:580 Special Topics: Workforce Education/Training
  - 5100:640 Techniques of Research
  - 5100:642 Introduction to Classroom Assessment for Teachers

- **Professional Technical Education Courses – 21 credits:**
  - 5150:639 Strategies for Online Teaching and Learning
  - 5400:600 The Two-Year College
  - 5400:605 Advanced System Design: Needs Assessment and Evaluation
  - 5400:620 Postsecondary Teacher Leadership
  - 5400:660 Postsecondary Distance Learning
  - 5400:698 Master’s Problem
  - 5400:699 Master’s Thesis

Total: 30 credits
• Required Department Courses (22 credits):

• Required Foundation Courses (6 credits):

Degree Requirements

processing time.

beginning of the term for which admission is sought in order to allow for adequate

submitted at least six weeks (domestic) or six months (international) before the

the master's program in Exercise Physiology/Adult Fitness must be completed and

mit a statement of purpose and three letters of recommendation. Applications to

In addition to the graduate application and official transcripts applicants must sub-

Admission Requirements

° Admittance to Graduate School

° B.S.N. Degree

° R.N. License

° B.S.N. Degree

° Admittance to Graduate School

Physical Education

Physical Education Option

(Admissions to this program 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 pro-

cram comes from two (2) areas: the foundations (6 cr.) and the program studies

area of physical education (25 cr.). The emphasis in this curriculum is to provide

answers to the questions “what I can learn about teaching and what decisions do

I face as a professional educator?” Students will be assigned an advisor with whom

they should consult on a regular basis. In fact, advisor approval is required on cer-

tain 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
or
5550:604 Current Issues in Physical Education 3
5550:603 Tactics and Strategies in the Science of Coaching 3
5550:605 Physiology of Muscular Activity and Exercise 3
5550:606 Statistics: Qualitative and Quantitative Methods 3
5550:609 Motivational Aspects of Physical Activity 3
5570:521 Comprehensive School Health 4

5550:695 Field Experience: Master’s (minimum) 2
5550:696 Master’s Thesis 2 (minimum)
5550:699 Master’s Thesis 2 (minimum)

Total Program 33

With the approval of an advisor, the student may select additional courses and/or

workshops related to the graduate program.

Exercise Physiology/Adult Fitness Option

(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 sub-

mit a statement of purpose and three letters of recommendation. Applications to

the master’s program in Exercise Physiology/Adult Fitness must be completed and

submitted at least six weeks (domestic) or six months (international) before the

beginning of the term for which admission is sought in order to allow for adequate

processing time.

Degree Requirements

• Required Foundation Courses (6 credits):

5550:604 Current Issues in Sport and Physical Education 3
or
5100:624 Seminar Educational Psychology 3
and
5100:640 Techniques of Research 3

• Required Courses (17 credits)

5550:553 Principles of Coaching 3
5550:562 Legal Aspects of Physical Activity 2
5550:601 Sports Administration and Supervision 3
5550:602 Motor Behavior Applied to Sport 3
5550:603 Tactics and Strategies in the Science of Coaching 3
5550:609 Motivational Aspects of Physical Activity 3

Choose one area of concentration in sport administration or coaching:

• Sport Administration (11-12 credits)

5550:522 Sport Planning and Promotion 3
5550:524 Sport Leadership 3
5550:630 Business of Sport 3

5550:695 Field Experience: Master’s 2 (minimum)
5550:698 Master’s Problem 2
5550:699 Master’s Thesis 2 (minimum)

• Coaching (10-12 credits)

5550:540 Injury Management for Teachers and Coaches 2
5550:528 Nutrition for Teachers and Coaches 3
5550:605 Physiology of Muscular Activity and Exercise 3
5550:695 Field Experience: Master’s 2 (minimum)
5550:698 Master’s Problem 2
5550:699 Master’s Thesis 2-4 (minimum)

• 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:

5550:590 Workshop (e.g., Issues of Student Athletes) 1-2
5550:680 Special Topics (e.g., Coaching Youth Sports) 1-2

Total Program 35

School Nurse License Program

(Admissions to this program are currently suspended)

Admission Requirements—Sequence 2

• R.N. License

• B.S.N. Degree

• Admittance to Graduate School
Admittance to College of Education (Graduate Studies)
Admittance to College of Nursing (Special/Non-Degree status)
Selected coursework in College of Education and College of Nursing
Supervised School Nurse experience
Course work distributed over the following areas:
Community health; family counseling; mental and emotional health, current topics in health education; methods of teaching/instructional design; learner and learning process; evaluation and measurement of learning; principles, comprehensive school health; advanced pediatric/adolescent assessment; advanced nursing research.

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5570:520</td>
<td>Community Health</td>
<td>2</td>
</tr>
<tr>
<td>5570:521</td>
<td>Comprehensive School Health</td>
<td>4</td>
</tr>
<tr>
<td>5570:523</td>
<td>Methods and Materials of Teaching Health Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>12</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:650</td>
<td>Advanced Pediatric/Adolescent Assessment</td>
<td>3</td>
</tr>
<tr>
<td>8200:613</td>
<td>Nursing Inquiry I</td>
<td>3</td>
</tr>
<tr>
<td>8200:553</td>
<td>School Nurse Practicum I</td>
<td>5</td>
</tr>
<tr>
<td>(can be waived based upon experience and submission of a portfolio)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8200:554</td>
<td>School Nurse Practicum II (required of all school nursing students)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>11-16</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:608</td>
<td>Pathophysiological Concepts</td>
<td>3</td>
</tr>
<tr>
<td>8200:656</td>
<td>Pharmacology for Child and Adolescent Health Nursing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>23-28</td>
</tr>
</tbody>
</table>

Admission Requirements—Sequence 3

• Admittance to the College of Nursing MSN Program—Child and Adolescent Track
• Admittance to College of Education (Special/Non-Degree status)
• Completion of the MSN Program in the Child and Adolescent Track
• Plus 12 graduate credits of College of Education core courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5570:520</td>
<td>Community Health</td>
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<tr>
<td>5570:523</td>
<td>Methods and Materials of Teaching Health Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:742</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>elective within College of Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(upon approval of College of Education school nurse licensing advisor)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>12</td>
</tr>
</tbody>
</table>

Master’s degree plus licensure.

*The school nurse practicum is contained in the MSN program in 8200:651 and 655 which fulfill the requirements of 8200:553 and 554.

College of Business Administration

Ravi Krovi, Ph.D., Dean
James J. Divoky, D.B.A., Associate Dean and
Susan C. Hanton, D.B.A., Interim Assistant Dean and
Director of Graduate Programs

MASTER’S DEGREES

The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration, Master of Science in Accountancy, Master of Taxation, and Master of Science in Management. The University has offered programs of study in business since 1919, initially through the Department of Commerce and since 1953 through the College of Business Administration. Programs in graduate studies were begun in 1958. All CBA undergraduate and graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB).

The CBA seeks to fulfill the educational and professional needs of its 500 graduate students, business organizations, and the community. Most of the graduate programs offered are flexible evening programs designed to serve students who are fully employed professionals and wish to pursue a master’s program on a part-time basis. Students often choose to enroll full-time to complete a master’s program more quickly.

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 based upon the overall undergraduate grade point average (GPA) (A=4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.

• Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,100 or more 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.

An admission interview will be required of students wishing to be admitted to the MBA program coming directly from an undergraduate program with no professional work experience.

Students 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 will be made as to the number of applicants that can be adequately served among those eligible for admission. As a result, offers of admission may be limited to only the most qualified of eligible applicants as determined by the CBA Graduate Admissions Committee. The committee considers the following factors: difficulty of the applicant’s undergraduate program; length of time and activities since graduation; and the percentile ranking on the GMAT.

In rare instances, the applicant who has taken the GMAT but does not meet requirements may be considered for admission. Also, those applicants previously denied admission may, upon presentation of new information, be reconsidered. In either case, the applicant must petition the CBA Graduate Admissions Committee in writing and provide those reasons relevant to the situation which demonstrate the likelihood of success. In all cases, 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. Students admitted with “provisional” status who have not attained an overall 3.0 GPA upon completion of 12 graduate credits will be dismissed from the program. Students admitted as non-degree seeking are restricted to enrolling in a maximum of nine credits of Gateway 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 is administered world-wide and the applicant should register for it sufficiently in advance to the filing of the graduate application.
to avoid delay of evaluation of the application for admission. Those who have taken the GMAT more than five years ago are normally required to retake the exam. The CBA Graduate Admissions Committee meets monthly and considers all completed applications on hand at the time of each meeting. Applicants will be informed of admission decisions once the dean of the Graduate School has acted upon the recommendation of the CBA Admissions Committee.

Degree 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 all course and program requirements of applicable master’s program.

Questions regarding these Policies, Procedures, and Requirements may be sent via e-mail to gradcbsa@uakron.edu. Further information may be found at the College of Business Administration website: mba.uakron.edu.

Transfer Policy
The College of Business Administration will permit nine credits of comparable graduate credits to be transferred in a graduate business program. These credits must be pre-approved by the CBA Director of Graduate Programs. 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 MBA is to be obtained; (2) the desired program (degree requirements) is specifically approved in advance by the CBA Director of Graduate Programs; and (3) no fewer than 21 new credits are earned for the second degree.

MBA Program Description
The MBA program is the principle graduate program of The University of Akron’s College of Business Administration. The objective of the MBA program is to provide a diverse group of men and women with the skills, multi-stakeholder strategic perspective, and innovative spirit required to lead in organizations that operate within a global business environment characterized by intense competition and increasing levels of complexity and uncertainty. The MBA is intended to be a generalist degree with emphasis on multi-functional knowledge rather than areas of specialization. Students should not expect to conduct heavily specialized study of a particular functional area within the MBA program. Students who typically experience the highest value added from an MBA program are those individuals with professional work experience and/or non-business undergraduate or graduate degrees. Graduates of The University of Akron’s MBA program should possess:

- The analytical and conceptual skills needed to identify and cope successfully with ambiguous and unstructured business problems;
- A solid foundation in relevant business functions, with emphasis on the integration of the functions and an understanding of how multiple business functions are linked in the formulation and execution of business strategy;
- A strong ethical perspective, an appreciation of workplace and marketplace 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 within which businesses operate and an understanding of the forces that drive competition and sustainability within the global economy.

In order to accomplish these goals, the graduate faculty of the College of Business Administration is committed to providing a high quality graduate business school experience. That experience will have a strong professional and real-world focus, characterized by collaborative work and emphasis on the practice of management. The faculty is intent on creating a stimulating academic environment with a balance between theory and application. Faculty strive to create a classroom setting that is varied, interesting, and permeated by the concepts of globalization, professional integrity and ethics, leadership, and planned change.

There are many skills students must acquire throughout an MBA program in addition to technical competencies within particular functional areas. These skills include communication and interpersonal skills, analytical reasoning and critical thinking skills, and leadership skills. These skills enable students to develop their professional identity and are woven into the program as follows:

Communication
1. Ability to present views and concepts clearly in writing;
2. Ability to objectively critique and judge the value of written work;
3. Ability to present views and concepts clearly through oral communication.

Collaborative work and interpersonal skills
4. Ability to understand group dynamics and work effectively with people from diverse backgrounds;
5. Ability to manage and resolve conflict;
6. Ability to organize and delegate project tasks.

Critical thinking and creative and effective problem solving
7. Ability to solve structured and unstructured problems;
8. Ability to deal effectively with imposed pressures and deadlines.

The basics for this group of skills may be acquired in prior bachelor degree programs. A variety of opportunities are provided to students throughout the program to develop these skills. A student’s progress is to be documented and evaluated by self-evaluation, peer evaluation, and faculty evaluation.

• Gateway Courses:
  All are required unless waived at the time of admission. Gateway Courses may not be used as concentration or action-based learning courses.

- 3250:600 Foundation of Economic Analysis (available as an online course) 3
- 6200:601 Financial Accounting 3
- 6400:602 Managerial Finance 3
- 6400:655 Government and Business 3
- 6700:695 Internship in Business 3

The Gateway Internship is required for students with no prior professional experience and does not count toward the degree requirements.

All courses beyond the Gateway Courses require demonstrated proficiencies in Excel, writing, and statistics

- Professional Courses (6 credits):
  6700:689 Leading and Influencing 1
  6700:691 Professional Integrity 1
  6700:693 Negotiations in the Workplace 1
  6500:601 Business Analytics and Information Strategy 3

- MBA Core Courses (18 credits):
  6800:605 International Business Environments 3
  6400:674 Strategic Financial Decision Making 3
  6200:610 Process Analysis and Cost Management 3
  6500:670 Management of Supply Chains and Operations 3
  6600:620 Strategic Marketing 3
  6500:652 Managing People in Organizations 3

- Concentration Courses (9 or 12 credits):
  Students select 9 or 12 credits (depending upon the concentration requirements) in one of the following fields of concentration: direct interactive marketing; leadership and organizational change; finance; health-care management; international business; international finance; management; global technological innovation; strategic marketing; or supply chain management. Or students may design an interdisciplinary concentration that meets his or her career objectives. This self-designed concentration must be planned and approved by the CBA Director of Graduate Programs upon the student’s enrollment in the MBA program.

- Integrative Course (3 credits):
  6500:695 Organizational Strategy 3

- Action-Based Learning Requirement:
  Each student is required to fulfill an action-learning requirement. This course requirement may be fulfilled by approved concentration courses which consist of real world projects and other activities in which students are engaged in action-based learning. Other action-based learning ventures that will fulfill this program requirement include, but are not limited to, internships (excluding the Gateway Internship), study abroad programs, independent studies, and special topic courses designated as fulfilling this program requirement. Required Professional, Core, and Integrative courses will not fulfill this program requirement.

- Program Summary
  
  Gateway Courses 12
  Professional Courses 6
  MBA Core Courses 16
  Concentration Courses 9 or 12
  Integrative Course 3
  Action-Based Learning (if not fulfilled in a concentration course) 3 or 0
  Total Program 51

If the Gateway Courses are all waived and the Action-Based Learning requirement is fulfilled in a concentration course within a 9 credit concentration, the MBA program is 36 credits.

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 course work. The School of Accountancy recommends that students select courses that allow them to focus on their concentration in one of the three
broad areas of accounting-financial reporting, taxation, or accounting information systems.

**Concentration in Direct Interactive Marketing (66010MBA)**

Expertise in Directed Interactive Marketing is critical in today’s marketing environment that focuses on one-to-one relationship building, brand equity, and customer lifetime value. This concentration will instruct students on how to employ customer databases to create interactive communication campaigns, acquire customers, and retain customers through customer relationship management programs. In a highly applied format students will become familiar with the resources at the Taylor Institute for Direct Marketing, including the Xerox XMPi/e Cross Media Laboratory.

- **Required (9 credits)**
  - 6600:615 Database Marketing 3
  - 6600:630 Customer Relationship Management 3
  - 6600:635 E-Commerce and Interactive Marketing 3

**Concentration in Finance (64000MBA)**

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 Global Technological Innovation (63000MBA)**

In a highly inter-dependent global economy technological innovations are emerging as the disruptive drivers of enterprise growth and survival. In this program students explore technology and innovation as a value adding system. This will prepare them as a valuable resource to help small, medium, and well-established large enterprises to launch their product, process, and service innovations faster. The program also prepares students to plan and launch new ventures and enterprises based on innovations.

- **Required (9 credits):**
  - 6500:608 Entrepreneurship 3
  - 6500:665 Management of Technology 3
  - 6500:675 Global Supply Chain Management 3

**Concentration in Health Care (65000MBA)**

- **Required (9 credits):**
  - 6500:580 Introduction to Health Care Management 3
  - 6500:582 Health Services Operations Management 3
  - 6500:683 Health Services Systems Management 3

**Interdisciplinary Concentration (60300MBA)**

This self-designed concentration must be planned and approved by the CBA Director of Graduate Programs upon the student’s enrollment in the MBA program. This concentration is intended for students with specific interdisciplinary career interests. The Interdisciplinary Concentration may include courses from colleges outside of the College of Business Administration.

**Concentration in International Business (68000MBA)**

This academic program views international business in the broad context of all business transactions devised and carried out across national borders to satisfy the organizational and personal goals of firms and individuals. International business studies incorporate all of the functional business operations of accounting, finance, management, and marketing; as such, it is an integrative field of study within an international framework. Students will integrate issues and trends in the global business environment and apply this insight to decision making.

- **Required (3 credits):**
  - 6600:675 Global Supply Chain Management 3

- **Choose six credits from the following:**
  - 6800:630 International Marketing Policy 3
  - 6800:690 Seminar: International Business 3
  - 6800:697 Independent Study: International Business 1-3

- **Plus any 9 credits in International Business:**
  - 6800:630 International Marketing Policies 3
  - 6800:650 Techniques of Financial Modeling 3
  - 6800:662 Applied Operations Research 3
  - 6800:663 Data Analysis for Managers 3
  - 6800:640 Business Research Methods 3

**Concentration in International Business for International Executives (68003MBA)**

International Business students must also satisfy the foreign language requirement: demonstrate reading and conversational proficiency in a language in addition to English.

**Concentration in International Business for International Executives (68003MBA)**

- **Required (choose one of the following courses):**
  - 6200:664 Research and Quantitative Methods in Accounting 3
  - 6400:650 Techniques of Financial Modeling 3
  - 6500:662 Applied Operations Research 3
  - 6500:663 Data Analysis for Managers 3
  - 6600:640 Business Research Methods 3

**Concentration in International Business for International Executives (68003MBA)**

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
   - 3250:570 International Monetary Economics 3
   - 3250:671 International Trade 3
   - 3350:538 World Metropolitan Areas 3
   - 3350:550 Development Planning 3
   - 3350:633 Comparative Planning 3
   - 3400:516 Modern India 3
   - 3400:573 Latin America: The Twentieth Century 3
   - 3400:575 Mexico 3
   - 3700:505 Politics of the Middle East 3
   - 3700:512 Global Environmental Politics 3

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

**Concentration in International Finance (64007MBA)**

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
  - 6400:681 Multinational Corporate Finance 3
  - 6400:691 International Markets and Investments 3
  - 6400:681 Multinational Corporate Finance 3

- **Choose three credits from the following:**
  - 6400:631 Financial Markets and Institutions 3
  - 6400:645 Investment Analysis 3
  - 6400:650 Techniques of Financial Modeling 3
  - 6400:678 Capital Budgeting 3
  - 6400:690 Selected Topics in Finance 3
  - 6400:697 Independent Study in Finance 3
  - 6400:698 Independent Study: Business Law 3

**Concentration in Leadership and Organizational Change (650207MBA)**

- **Required (9 credits):**
  - 6500:651 Management of Organizational Transformation 3
  - 6500:657 The Leadership Role in Organizations 3
  - 6500:658 Managing a Global Workforce 3

**Concentration in Management (65000MBA)**

- **Required (9 credits):**
  - Choose 9 graduate credits from 6500. No more than 3 credits at the 500 level.
Concentration in Strategic Marketing (66000MBA)
The Strategic Marketing concentration offers an overview of critical marketing functions. The required courses focus on management of information and overall brand identity. Students may choose a professional selling or e-commerce and communication application.
• Required (6 credits):
  6600:640 Business Research Methods 3
  6600:625 Brand Management 3

• Choose one of the following (3 credits):
  6600:635 E-Commerce and Interactive Marketing 3
  6600:681 Sales Management 3
*Note: Students should take 6600:640 prior to 6600:625.

Concentration in Supply Chain Management (65020MBA)
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 professional duties 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 (9 credits):
  6500:675 Global Supply Chain Management 3
  6500:677 Supply Chain Sourcing 3
  6500:680 Supply Chain Logistics Management 3

Master of Science in Accountancy (620004MASA: Accounting) (620005MASA: 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 accountancy option or an accounting information systems option.

Program Learning Goals
Consistent with the School’s mission, students in the program will:
• Develop advanced knowledge and understanding of accounting concepts, the regulatory environment, and professional practice issues and challenges;
• Enhance their critical thinking skills and develop the ability to apply advanced knowledge of accounting concepts, principles and practices in innovative ways;
• Develop the ability to research accounting issues and write research reports that incorporate qualitative and quantitative data analysis and integrate information from multiple sources;
• Demonstrate effective written and oral communication skills;
• Understand and appreciate the role of information technology in contemporary accounting, research, and decision-making; and
• Understand and appreciate the significance of ethics, professionalism, and social responsibility in accounting.

Admission Requirements
The MSA curriculum consists of 30 semester credits. Admission to the program is open to the following individuals:
1. Individuals with undergraduate degrees in accounting from a regionally accredited institution or international equivalent.
2. Individuals with a non-accounting undergraduate business degree from a regionally accredited institution or international equivalent.
3. Individuals with a non-business undergraduate degree from a regionally accredited institution or international equivalent.
All students must earn a satisfactory score on the GMAT in order to be accepted into the program. Students with accounting degrees from AACSB accredited business schools are not required to complete foundation courses provided that they earn an overall GPA in accounting of 2.5 or better. Students who do not satisfy this criterion may be required to complete selected foundation courses specified by the chair of the School of Accountancy.

The Program
Individuals with a non-accounting undergraduate business degree from a regionally accredited institution or international equivalent or individuals with a non-business degree from a regionally accredited institution or international equivalent must complete all Pre-MSA foundation courses and Pre-MSA financial reporting courses listed below. Students who have completed similar courses at the undergraduate or graduate level may apply for waivers. Applications for waivers will be reviewed on a case-by-case basis, considering such factors as the student’s background, work experience, institution, grades earned, and date when similar courses were taken. Documented guidance on sequencing MSA courses available through the School of Accountancy.

• Pre-MSA Foundation Courses (12 credits):
  All foundation courses must be taken prior to courses in the MSA program. An exception to this policy may be made by the chair of the School of Accountancy for students who have received waivers from foundation courses.
  6200:603 Accounting Decision Support Systems 3
  6400:602 Managerial Finance 3
  6400:623 Legal Aspects of Business Transactions 3
  6500:601 Business Analytics and Information Strategy 3

• Pre-MSA Financial Reporting Courses (12 credits):
  All Pre-MSA Financial Reporting Courses with the exception of 6200:540 (Assurance Services and Professional Responsibilities) must be completed prior to taking courses in the MSA program.
  6200:621 Corporate Accounting and Financial Reporting I 3
  6200:622 Corporate Accounting and Financial Reporting II 3
  6200:610 Process Analysis and Cost Management 3
  6200:301 Cost Management and Control or equivalent 3
  6200:540 Assurance Services and Professional Responsibilities 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 (6200:554, 615, and 659) or management information systems (6500:520, 641, 643, 645, and 678) classes. The chair of the School of Accountancy may approve other courses.

Group A: Accounting and Assurance Core (12 - 15 credits):
  6200:615 ERP and Financial Data Communications 3
  6200:617 Contemporary Accounting Issues 3
  6200:658 Enterprise Risk Assessment and Assurance 3
  6200:660 Accounting and Assurance Project (capstone course) 3
  6200:520 Advanced Financial Reporting and Analysis* 3
*Students in this group are required, except for 6200:520, which is not required for students in the AIS option. Students who have completed a similar advanced accounting course at the undergraduate level must take a different course.

Group B: Taxation Core (3 - 6 credits):
  6200:627 Federal Taxation 3
  6200:531 Business Entity Taxation* 3
  6200:628 Tax Research 3
  6200:631 Corporate Taxation I 3
*Students are required to take a different taxation course if they have completed the equivalent of 6200:627 or 6200:531. Students are required to complete at least one course but no more than two courses in the taxation core.

Group C: Accounting Electives (0 - 6 credits):
  6200:554 Information Systems Security 3
  6200:570 Governmental Accounting 3
  6200:629 Tax Crimes and Forensics 3
  6200:659 Assurance Services and Data Mining 3
These electives are open only to students who have not previously completed similar courses.

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
  6400:674 Strategic Financial Decision Making 3
  6400:678 Capital Budgeting 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 (MTax) Program is a professional degree designed to provide intensive training for individuals with an interest in developing specialized skills in the area of taxation. The program is intended for practicing accountants and attorneys who wish to further or pursue a career in taxation. However, other individuals with a four-year degree in business or accounting from a regionally accredited institution of higher learning (or international equivalent) may also find the program valuable and manageable. The program offers substantive technical and professional knowledge, skills, and abilities needed to function as a taxation specialist in the United States. Students in the program will:

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 (JD students must complete the first year of law school if full-time or the second year of law school if part-time before they can take courses in the MTax program).

5. Individuals with an undergraduate degree in business from a regionally accredited institution or international equivalent.

6. Other individuals who demonstrate a high potential to succeed in the MTax program (based on GMAT scores, undergraduate GPA, letters of recommendation, and prior work experience) and who have earned at least a B average in 6200:601 Financial Accounting (or equivalent) and 6200:627 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. Foundation courses are not required for individuals in Categories 1 and 2.

Individuals in categories 3 and 5 must complete an introduction to financial accounting course and a federal income taxation course before they begin taking MTax courses. These courses may be taken at the graduate or undergraduate level. Students should plan to complete those courses in the summer or earlier prior to starting the required MTax courses.

Students are encouraged to begin the program in the fall. Full-time students who begin the program in fall will normally complete all requirements for graduation in two semesters. Part-time students who start in fall can complete all requirements for graduation within two years.

**Required Master of Taxation Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:628</td>
<td>Tax Research</td>
<td>3</td>
</tr>
<tr>
<td>6200:631</td>
<td>Corporate Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>6200:632</td>
<td>Taxation of Transactions in Property</td>
<td>3</td>
</tr>
<tr>
<td>6200:641</td>
<td>Taxation of Partnerships</td>
<td>3</td>
</tr>
<tr>
<td>6200:643</td>
<td>Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:649</td>
<td>State and Local Taxation</td>
<td>3</td>
</tr>
<tr>
<td>6200:651</td>
<td>International Taxation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits of Required Courses: 24

Approved Taxation Electives: 6

Total Credits Required for MTax: 30
The University of Akron 2011-2012

Master of Science in Management

The Master of Science in Management program allows students to concentrate their advanced study in one of two areas: Information Systems Management or Technological Innovation. Because of the complex nature of these specializations, they are not normally offered as options in traditional MBA programs. They are designed for individuals who know what they want to do or to help them apply what they already know more effectively. For example, computer science majors may choose to concentrate in information systems while engineering majors would benefit from the technological innovation option. The introductory coursework for this program is termed a foundation core and consists of 6 credits which may be waived if the student has completed prior study in the area. The remaining 30 credits of coursework consists of 12 credits of specialization coursework and 6 credits of electives. If all foundation courses are waived, the program is 30 credits in length. Students may waive the GMAT requirement if they have an acceptable GRE score and have two years of documented business experience.

• Foundation Core (6 credits)
  6200:601 Financial Accounting 3
  6600:620 Strategic Marketing Management 3

• Management Core Courses (12 credits)
  6500:601 Business Analytics and Information Strategy 3
  6500:652 Managing People in Organizations 3
  6500:675 Global Supply Chain Management 3
  6500:678 Project Management 3

Options

Choose a concentration from the following:

Information Systems Management (ISM) (650004MSM)

• Information Systems Management Core Courses (12 credits)
  6500:640 Information Systems and IT Governance 3
  6500:641 Business Database Systems 3
  6500:643 Analysis and Design of Business Systems 3
  6500:644 Knowledge Management and Business Intelligence 3
  *Note: 6500:601 will be a prerequisite for 6500:641, 6500:643, and 6500:644.

• Electives - take any two of the following (6 credits)
  6200:554 Information Systems Security 3
  6500:520 Management of Data Networks 3
  6500:645 Software Development and Quality Assurance 3
  6500:651 Management of Organizational Transformation 3
  6700:695 Internship in Business 1-3

Human Resource Option (HRM) (650005MSM)

(Admission to the Human Resource Option of the Master of Science in Management degree program has been suspended effective Fall 2011 until further notice)

• Management Core Courses (12 credits)
  6500:640 Information Systems and IT Governance 3
  6500:652 Managing People in Organizations 3
  6500:663 Data Analysis for Managers 3
  6500:675 Global 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 Managing a Global Workforce 3
  6500:660 Staffing and Employment Regulation 3

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

Total Concentration 18

Technological Innovation (650208MSM)

• Technological Innovation Core Courses (12 credits)
  6500:665 Management of Technology 3
  6500:668 Entrepreneurship 3
  6500:651 Organizational Transformation 3
  6400:652 Managerial Finance 3

• Electives - take any two of the following (6 credits)
  6500:645 Software Development and Quality Assurance 3
  6500:651 Management of Organizational Transformation 3
  6500:652 Managing People in Organizations 3
  6500:658 Legal Aspects of Business Transactions 3
  6500:665 Biotechnology and Design 3

Accelerated MSM - ISM Program Option (650204MSM)

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 an information systems management emphasis. Additional requirements for students wishing to pursue this option include:

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

Management Core Courses (9 credits)

  6500:601 Business Analytics and Information Strategy 3
  6500:675 Global Supply Chain Management 3
  6500:678 Project Management 3

Information Systems Core (12 credits)

  6500:640 Information Systems and IT Governance 3
  6500:641 Business Database Systems 3
  6500:643 Analysis and Design of Business Systems 3
  6500:644 Knowledge Management and Business Intelligence 3
  *Note: 6500:601 will be a prerequisite for 6500:641, 6500:643, and 6500:644.

Practicum (3 credits) Choose one from the following:

  6500:690 Selected Topics in Management 3
  (This course may be taken as an elective to add a Global or Study Abroad experience)
  6700:695 Internship (see below for guidelines) 3

Electives (6 credits)

  6500:520 Management of Data Networks 3
  (May be applied toward the program if taken as an undergraduate senior and did not apply toward the baccalaureate degree)
  6500:554 Information Systems Security 3
  (May be applied toward the program if taken as an undergraduate senior and did not apply toward the baccalaureate degree)
  6500:645 Software Development and Quality Assurance 3
  6500:651 Management of Organizational Transformation 3
  6500:652 Managing People in Organizations 3
  (Recommended for students with an undergraduate degree in a non-Business field)

Total Guidelines for receiving credit for the Information Systems Internship:

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

Approved Taxation Electives:

  6200:629 Tax Crimes and Forensics 3
  6200:633 Estate and Gift Taxation 3
  6200:642 Corporate Taxation II 3
  6200:644 Income Taxation of Incedents, 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 S Corp Taxation 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. 6200:682 Tax Research must be taken in the first semester that the class is available.
Joint Programs

The School of Law and the College of Business Administration (CBA) offer a joint program in legal and administrative studies (J.D./M.B.A.), a joint program in legal and taxation studies (J.D./M.Tax.) and a joint program in legal and human resource studies (J.D./M.S.M.). These combinations are open to the student preparing for a career in such areas as corporate law, tax accounting, human resource management or legal practice in government. The amount of time required to complete a joint degree program is shorter than the time required to complete both programs independently. To pursue either one of these cooperative programs, the student must apply to and be accepted by both the School of Law and the Graduate School. The student should contact each school independently for information covering admission criteria and procedures (for further information on School of Law admissions, write: Director of Admissions, School of Law. The University of Akron, Akron, OH 44325-2901). A baccalaureate degree is required.

Degree Requirements

A student is required to fulfill the requirements of the School of Law, 87 credits, which includes up to nine 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 (Gateway) courses (unless waived because of prior undergraduate credits earned), and 27 credits for M.B.A. advanced courses in the CBA plus nine credits transferred from the School of Law. The Master of Taxation program consists of 21 credits of advanced courses in the CBA plus 9 credits transferred from the School of Law. The reciprocal acceptance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Programs in Business prior to completion. To earn both degrees, a total of 98 (J.D./M.B.A.) credits is required, depending on the master’s program pursued. More credits may be required for the master’s degree if Foundation courses are required.

Upon the approval of the director of Graduate Programs in Business, up to nine 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 M.Tax program:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>9200:641</td>
<td>Corporate Taxation I (3 credits)</td>
<td></td>
</tr>
<tr>
<td>9200:721</td>
<td>Taxation of Intellectual Property (3 credits)</td>
<td></td>
</tr>
<tr>
<td>Other courses offered in the School of Law as approved by the Chair of the School of Accountancy and the M.Tax program coordinator:</td>
<td></td>
<td></td>
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<tr>
<td>Courses that will transfer as M.Tax elective courses:</td>
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<td></td>
</tr>
<tr>
<td>9200:639</td>
<td>Estate and Gift Taxation (3 credits)</td>
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</tr>
<tr>
<td>9200:645</td>
<td>Non-profit Tax Entities (3 credits)</td>
<td></td>
</tr>
<tr>
<td>9200:675</td>
<td>Special Problems in Estate Planning (3 credits)</td>
<td></td>
</tr>
<tr>
<td>9200:680</td>
<td>Qualified Pension and Profit Sharing Plans (3 credits)</td>
<td></td>
</tr>
<tr>
<td>9200:684</td>
<td>Entities (3 credits)</td>
<td></td>
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<tr>
<td>9200:685</td>
<td>Wills, Trusts, and Estates I (3 credits)</td>
<td></td>
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<tr>
<td>9200:686</td>
<td>Wills, Trusts, and Estates II (3 credits)</td>
<td></td>
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<tr>
<td>9200:684</td>
<td>Mergers and Acquisitions (3 credits)</td>
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<tr>
<td>Other courses offered in the School of Law as approved by the Chair of the School of Accountancy and the M.Tax program coordinator:</td>
<td></td>
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</tr>
<tr>
<td>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 nine credit hours 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.</td>
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<tr>
<td>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.</td>
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</tbody>
</table>

Law Courses to be used as MSM-HR Concentration Courses

(Admission to the Human Resource Option of the Master of Science in Management degree program has been suspended until further notice therefore the MSM-HR concentration is not available effective Fall 2011)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>9200:637</td>
<td>Employment Discrimination</td>
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<tr>
<td>9200:642</td>
<td>Alternative Dispute Resolution</td>
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<tr>
<td>9200:651</td>
<td>Employment Law</td>
<td></td>
</tr>
<tr>
<td>9200:659</td>
<td>Negotiations</td>
<td></td>
</tr>
<tr>
<td>9200:684</td>
<td>Human Resources Lawyer</td>
<td></td>
</tr>
<tr>
<td>9200:721</td>
<td>Taxation of Intellectual Property (3 credits)</td>
<td></td>
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<tr>
<td>9200:683</td>
<td>Seminar in Product Liability</td>
<td></td>
</tr>
<tr>
<td>9200:701</td>
<td>Patent Law and Policy</td>
<td></td>
</tr>
</tbody>
</table>

Interdisciplinary Concentration (choose 9 credits)

Students may devise a personalized concentration consisting of any nine credits of the law courses listed for the concentrations. The choice of courses for the interdisciplinary Concentration must be approved by the director prior to enrolling in the courses. Students must provide a career-related, programmatic rationale for the personalized concentration they have devised.

Law Courses to be used as MBA Concentration Courses

Choices for Concentration Electives:

Finance (choose 3 credits)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>9200:629</td>
<td>Secured Transactions</td>
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<tr>
<td>9200:635</td>
<td>Bankruptcy Law</td>
<td></td>
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<tr>
<td>9200:639</td>
<td>Estate and Gift Taxation</td>
<td></td>
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<tr>
<td>9200:652</td>
<td>Land Use Planning</td>
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<tr>
<td>9200:671</td>
<td>Securities Regulation</td>
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<tr>
<td>9200:675</td>
<td>Special Problems in Estate Planning</td>
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<tr>
<td>9200:680</td>
<td>Qualified Pensions and Profit Sharing Plans</td>
<td></td>
</tr>
<tr>
<td>9200:685</td>
<td>Wills, Trusts, and Estates I</td>
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<td>9200:686</td>
<td>Wills, Trusts, and Estates II</td>
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<tr>
<td>9200:684</td>
<td>Mergers and Acquisitions</td>
<td></td>
</tr>
<tr>
<td>Other courses offered in the School of Business as approved by the Chair of the School of Accountancy and the MBA program coordinator:</td>
<td></td>
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</tr>
<tr>
<td>International Business (choose 6 credits)</td>
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<td></td>
</tr>
<tr>
<td>9200:649</td>
<td>International Law</td>
<td></td>
</tr>
<tr>
<td>9200:676</td>
<td>International Trade</td>
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</tr>
<tr>
<td>9200:691</td>
<td>International Investments and Commercial Transactions</td>
<td></td>
</tr>
<tr>
<td>9200:716</td>
<td>International Patent Law</td>
<td></td>
</tr>
<tr>
<td>9200:718</td>
<td>International Trademark Law</td>
<td></td>
</tr>
<tr>
<td>Management (choose 6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9200:626</td>
<td>Basic Business Associations</td>
<td></td>
</tr>
<tr>
<td>9200:633</td>
<td>Corporations</td>
<td></td>
</tr>
<tr>
<td>9200:637</td>
<td>Employment Discrimination</td>
<td></td>
</tr>
</tbody>
</table>
College of Health Professions

Roberta DePompei, Ph.D., Interim Dean

Organization

The College of Health Professions, established in 2012, comprises four schools: the School of Nursing; the School of Nutrition and Dietetics; 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 focuses on graduating students prepared to excel as professionals in an evolving health care environment. Highly collaborative and interprofessional, this new college will be a model for health education and research in this region and beyond.

DOCTORAL DEGREE PROGRAMS

Doctor of Audiology Program (Au.D.)

The Au.D. is a four-year post baccalaureate professional doctoral degree program. Doctors of Audiology are independent professionals who specialize in the diagnosis, management and treatment of hearing and balance disorders.

The Au.D. program, which is known as the Northeast Ohio Au.D. Consortium (NOAC), is a joint degree program administered by The University of Akron and Kent State University. NOAC is a single unified program of faculty, students, facilities, and resources. Students take classes and participate in clinic at both The University of Akron and Kent State University 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
  - 7700:741 Directed Observation in Audiology I 1
  - 7700:705 Auditory Disorders 2
  - 7700:706 Anatomy and Physiology Underlying Neuro-Otology 4
  - 7700:707 Psychophysics 3
  - 7700:708 Critical Analysis of Research in Audiology II 2
  - 7700:742 Directed Observation in Audiology II 1
  - 7700:709 Audiologic 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 Audiologic Disorders 3

Doctor of Philosophy in Nursing

The University of Akron and Kent State University offer a Ph.D. in Nursing, a single degree program with a single, unified doctoral nursing faculty and doctoral student body. Students may choose which university will grant their degree. The Ph.D. degree will be issued from the student’s university of record and will recognize the Joint Doctor of Philosophy program. Courses will be cross listed and scheduled at each university.

Preparation Purpose and Description: Preparation of Scholars in Nursing

The Ph.D. in Nursing program is characterized by excellence through scholarship, integrity, and caring. The primary purpose of the program is to prepare 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 program through the Graduate School at The University of Akron or the Graduate College at 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 admissions committee.

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 admission committee, successfully complete a personal interview with a graduate faculty member which will assess research interests and motivation for successful completion of doctoral study.
- Register for courses within one (1) year of acceptance into the program, or otherwise the acceptance is void.

Students wishing to transfer into the Ph.D. in Nursing Program must comply with the university standards for acceptance and are referred elsewhere in this catalog for that information.
International students will be considered for admission. In addition to the above admission criteria, international students must demonstrate a high level of competence in English, a minimum score of 550 on the Test of English as a Foreign Language (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 customized to student interest, subject to advisor approval. Target dates for successfully completing the qualifying examination and the completion of the dissertation will be developed early in the program plan. Students may change advisors for academic or dissertation purposes, subject to the approval of the program directors.

For progression and graduation, students must meet the following degree requirements:

- Maintain an overall grade point average of 3.0 on a four-point scale (or be liable to dismissal according to University policies);
- Adhere to criteria concerning enrollment, residency, and leaves of absence;
- Complete degree requirements within 9 years of enrollment;
- Complete 42 semester hours of required course work;
- Successfully complete the 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 investigation and critical scholarship.

Students who do not meet the criteria for successful progression and graduation will be notified in writing.

Program Description and Curriculum

The Ph.D. in Nursing is a post-master’s degree, requiring 72 semester credit hours including dissertation. It consists of five components, with selected customization to student interests. The nursing knowledge component examines knowledge and theory development as well as courses in selected domains of nursing knowledge related to student interest and faculty expertise. Research methods, designs, and statistics examines approaches to both qualitative and quantitative research. Students must select at least one advanced research methods course to promote their research agenda: i.e., program evaluation, advanced qualitative or quantitative methods, or grantsmanship. Cognates will be chosen from courses outside nursing which support the student’s research interest. Health care policy courses focus on health care and nursing issues. These four components culminate into the fifth component, the dissertation, which follows the successful completion of the qualifying examination. The course work in each of these five components follows.

Structure and content of nursing knowledge:

- Five required courses (15 credits)
  - 8200:810 History and Philosophy of Nursing Science 3
  - 8200:815 Theory Construction and Development in Nursing 3
  - 8200:820 Introduction to Nursing Knowledge Domains 3
  - 8200:840 Nursing Science Seminar I 3
  - 8200:850 Nursing Science Seminar II 3

Research methods, designs, and statistics:

- Four required methods/design courses (12 credits)
  - 8200:824 Foundations of Scholarly Inquiry in Nursing 3
  - 8200:825 Quantitative Research Methods 3
  - 8200:830 Qualitative Research Methods 3
  - 8200:845 Advanced Methods for Research 3

- Two required statistics courses (6 credits)
  - 8200:827 Advanced Health Care Statistics I 3
  - 8200:837 Advanced Health Care Statistics II 3

Cognates:

- Two required courses (6 credits) Cognates 6

  (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 1-12
- 8200:895 Special Topics in Nursing 1-6
- 8200:896 Individual Investigation in Nursing 1-3
- 8200:898 Research in Nursing 1-15

Health Care and nursing policy:

- One required course (3 credits)
  - 8200:835 Nursing and Health Care Policy 3

Doctoral dissertation

- 30 credit hours required
  - 8200:899 Doctoral Dissertation 30

Students who need more than 30 credit hours to complete the dissertation will enroll in 8200:800 Doctoral Dissertation II.

Qualify for Candidacy for the Doctoral Dissertation

- All students in the program are required to successfully complete a qualifying examination before proceeding to conduct dissertation research. To be eligible for candidacy for the dissertation, students must have completed 42 hours of required courses, have maintained a minimum GPA of 3.0 on a 4.0 scale in the doctoral program, have successfully completed the qualifying examination, and have been approved by the appropriate administrative bodies of the program.

- Dissertation Prospectus. The dissertation prospectus is a written document that examines approaches to both qualitative and quantitative research. It includes an outline of the parameters of the projected dissertation topic with a rationale and statement of the problem to be researched, the methodology and design of the study, a preliminary review of the literature substantiating the need for the study, and the principle sources of information for the dissertation. Approval of the prospectus permits the student to proceed with the dissertation.

- Dissertation. The dissertation is based upon original investigation and demonstration of mature scholarship and critical judgment in the theoretical and methodological approaches to development of nursing knowledge. The dissertation is expected to be the first step in the development of a program of research and scholarly activity. A minimum of 30 dissertation credit hours are required.

- Oral defense. When the dissertation is completed a meeting will be scheduled for the student's defense of the dissertation. The candidate is expected to respond to substantive and methodological questions related to the dissertation.

- Dissertation committee. A four person doctoral dissertation committee will guide and approve the acceptability of the dissertation. The Chair must be a member of the Nursing Ph.D. faculty, as must be two committee members. The remaining member must be selected from outside the program. Other qualifications of members will be consistent with the student's area of research and with the requirements for doctoral committees as stated in the policies and general catalogs of both universities.

Innovative Curriculum Pathways to the Ph.D. in Nursing Program for BSN Graduates and for Students Enrolled in MSN Option

The Innovative Pathways into the Ph.D. in Nursing Program is an accelerated program that allows individuals with a BSN and students enrolled in the RN-MSN program direct admission into the program. Acceleration is accomplished by restructuring MSN and Ph.D. curricula to recognize the mastery of specific content, thereby facilitating graduate study. There are two pathways: one for BSN graduates and one for RN-option students. Since existing acceleration pathways differ at The University of Akron and Kent State University, individuals applying for admission to this program must apply for admission through the Graduate School of The University of Akron.

BSN Graduates:

BSN students within one semester of graduation and professional nurses with a BSN degree may apply in December prior to the fall in which admission is desired. Admission criteria include:

- Enrollment in an accredited BSN program within one semester of graduation or hold the BSN degree.
- Provide evidence of successful completion (or the potential to complete the BSN by the following fall semester) of a baccalaureate degree program in nursing at an accredited school with a minimum grade point average of 3.0 on a 4.0 scale.
- Provide evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Provide evidence of acceptable scores on the Graduate Record Examination.
- Submit a statement about nursing career interests and goals.
- Give a sample of written work. This may include, for example, a scientific term paper, a research paper, an honor’s project, a professional report, or a published article.
- Submit three (3) letters of recommendation from professors or other professionals who can adequately evaluate previous work and potential for success in the Ph.D. program. One of the three letters must be from a Doctoral Faculty Council member who has worked closely with the student.
- Satisfactorily complete a personal interview with a Doctoral Faculty Council member.
- Register for full-time study during the fall semester after acceptance into the Ph.D. program, or otherwise the acceptance is void.
- Enroll in full-time study for four calendar years for students who are entering directly from the BSN program or full-time study for two academic years plus two calendar years for post-BSN applicants.

Students receive a maximum of 12 credit hours of by-passed credit for master’s level courses after successfully completing 12 credit hours of doctoral level courses. Bypass credit is given in accordance with applicable University of Akron policy.

Upon successful completion of 8200:815, 8200:825, 8200:830, and 8200:835, students receive a maximum of 12 hours of by-passed credit for master’s level courses.

Internship: Students entering directly from the BSN program will be required to complete two 10-week internships with the Co-op program (paid positions).
Professional Doctor of Nursing Practice
(820000DNP - Post MSN DNP)

Admission Requirements

- Current Ohio licensure as a registered nurse.
- An undergraduate cumulative grade point average of 3.0 on a 4.0 scale (post-MSN applicants). Post-MSN applicants must have earned a master’s degree from an accredited university with a cumulative grade point average of 3.0 on a 4.0 scale.
- Three letters of recommendation from individuals who can address the applicant’s potential to succeed in the DNP graduate program and who can attest to clinical expertise.
- A pre-admission interview, by telephone or in person, with the concentration program director. The interview is used to establish a fit between student goals and the desired College of Nursing graduate concentration as recommended by the interviewer(s).
- A 300 word essay describing professional goals and reasons for seeking the particular speciality concentration.

Applications to the Doctor of Nursing Practice are accepted on a rolling basis.

Development of the curriculum is structured by four broad areas of knowledge described in the AACN’s Essentials of Doctoral Education for Advanced Practice Nursing (2006). Acquisition of knowledge within the areas of Scientific/Physiologic Foundation for Advanced Evidence Based Practice; Leadership Information Management; Practice Inquiry; and Advanced Specialty Practice, will be demonstrated by the student’s development of essential competencies. The following outcome competencies are expected.

Graduates of the program will:
- Use appropriate theories and concepts to identify health-related phenomena of interest.
- Design and deliver interventions that can withstand scientific analysis.
- Evaluate health care delivery and nursing practices using sound evaluation principles.
- Use evaluation and other methods to account for quality of care and patient safety for focus populations.
- Critically appraise and/or use sources informing best evidence, i.e. epidemiology, statistics, health data, and/or methodologies.
- Deliver and evaluate care processes and outcomes based on best evidence.
- Analyze and define critical choices among health care technologies and information systems toward the betterment of care processes and outcomes.
- Understand the dynamics of health care policy and financing at the organizational and national levels.
- Provide or assist in the leadership of collaborative, inter-professional teams in health care delivery.

Program Description
The University of Akron Professional Doctor of Nursing Practice (DNP) program requires a minimum of 71 graduate credit hours and 1,040 clinical hours for those students entering with a baccalaureate in nursing degree from an accredited program. Post-master’s entry requires: a) 37 credits of DNP core courses; b) 540 clinical practice hours; and c) transfer from the student’s master’s degree in nursing program a minimum of 34 credits of nursing and advanced practice role-specific coursework, which includes 500 clinical hours (or is taken as part of the DNP program).

Core Courses (20 credits):
- 8200:603 Theoretical Basis for Nursing 3
- 8200:607 Policy Issues in Nursing 2
- 8200:606 Pathophysiological Concepts of Nursing Care 3
- 8200:612 Advanced Clinical Pharmacology 3
- 8200:613 Nursing Inquiry I 3
- 8200:618 Nursing Inquiry II 3
- 8200:60* Advanced Health Assessment 3
- 8200:610, 611, or 650 (Appropriate to speciality track)

Speciality Courses (12-34 credits):
Speciality courses vary according to the particular current MSN advanced practice concentration (includes 500-700 clinical hours).

DNP Courses (minimum of 37 credits and includes 540 clinical hours):
- 8200:827/KSU NURS 70727 Advanced Healthcare Statistics 3
- EPI2015 (KSU) Fundamentals of Public Health Epidemiology 3
- NURS70602 (KSU) Synthesis and Application of Evidence for Advanced Practice Nursing 3
- 8200:848 Program Evaluation in Nursing 3
- 8200:701 Advanced Seminar in Clinical Genomics and Health 3
- 8200:700 Information Management in Healthcare 3
- NURS70640 (KSU) Advanced Leadership in Healthcare 3
- 8200:705 Clinical Scholar I 3
- 8200:706 Clinical Scholar II 4
- 8200:707 Clinical Scholar Residency 3
- 8200:708 Capstone Project I 2-6
- 8200:708 Capstone Project I 1-3

M A S T E R ’ S D E G R E E

Nutrition and Dietetics
(H40103MSND)

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 Nutrition and Dietetics 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 nutrition 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, implementation, and evaluation of original and creative programs and/or resource materials. A written proposal for the thesis or project 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7760:604</td>
<td>Orientation to Graduate Studies in Health Professions</td>
<td>1</td>
</tr>
<tr>
<td>7400:680</td>
<td>Historical and Conceptual Bases of Family and Consumer Sciences</td>
<td>3</td>
</tr>
<tr>
<td>7760:685</td>
<td>Research Methods in Health Professions</td>
<td>3</td>
</tr>
</tbody>
</table>

• Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7760:624</td>
<td>Advanced Human Nutrition I</td>
<td>3</td>
</tr>
<tr>
<td>7760:625</td>
<td>Advanced Human Nutrition II</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (9 to 12 credits required)

At least 2 courses must be selected from Biology (3100), Chemistry (3150), Nursing (8200), Exercise Physiology (5550), or Nutrition (7760). If course was taken at the undergraduate level, it may not be used at the graduate level. Students are not limited to the following course selections, however, advisor approval is required.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:565</td>
<td>Cardiac Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3150:501</td>
<td>Biochemistry Lecture I</td>
<td>3</td>
</tr>
<tr>
<td>3150:502</td>
<td>Biochemistry Lecture II</td>
<td>3</td>
</tr>
<tr>
<td>7760:524</td>
<td>Nutrition in the Life Cycle</td>
<td>3</td>
</tr>
<tr>
<td>7760:580</td>
<td>Community Nutrition I - Lecture</td>
<td>3</td>
</tr>
<tr>
<td>7760:582</td>
<td>Community Nutrition II - Lecture</td>
<td>3</td>
</tr>
<tr>
<td>7760:587</td>
<td>Sports Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>7760:588</td>
<td>Practicum in Dietetics</td>
<td>1-3</td>
</tr>
<tr>
<td>8200:561</td>
<td>Advanced Physiological Concepts in Health Care I</td>
<td>3</td>
</tr>
<tr>
<td>8200:562</td>
<td>Advanced Physiological Concepts in Health Care II</td>
<td>3</td>
</tr>
<tr>
<td>8200:608</td>
<td>Pathophysiology Concepts of Nursing Care</td>
<td>3</td>
</tr>
<tr>
<td>8200:612</td>
<td>Advanced Clinical Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>3230:520</td>
<td>Anthropology of Food</td>
<td>3</td>
</tr>
<tr>
<td>5550:605</td>
<td>Physiology of Muscular Activity and Exercise</td>
<td>3</td>
</tr>
<tr>
<td>7700:632</td>
<td>Dysphasia</td>
<td>3</td>
</tr>
</tbody>
</table>

Cognate Electives (8 to 11 credits required)

Select with the approval of advisor from among the following or other courses that strengthen the student's goals.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3470:664</td>
<td>Statistics for the Health Sciences</td>
<td>4</td>
</tr>
<tr>
<td>3850:678</td>
<td>Social Gerontology</td>
<td>3</td>
</tr>
<tr>
<td>5600:651</td>
<td>Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>6500:652</td>
<td>Management and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>7760:528</td>
<td>Nutrition in Medical Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>7760:543</td>
<td>Nutrition Assessment</td>
<td>3</td>
</tr>
<tr>
<td>7760:513</td>
<td>Food System Management II</td>
<td>3</td>
</tr>
<tr>
<td>7760:514</td>
<td>Food System Management II Clinical</td>
<td>3</td>
</tr>
<tr>
<td>7760:500</td>
<td>Nutrition Communication and Education Skills</td>
<td>3</td>
</tr>
<tr>
<td>3850:656</td>
<td>Sociology of Health Care</td>
<td>3</td>
</tr>
<tr>
<td>5550:880</td>
<td>Writing for Publication</td>
<td>3</td>
</tr>
<tr>
<td>6500:580</td>
<td>Introduction to Health Care Management</td>
<td>3</td>
</tr>
<tr>
<td>7400:501</td>
<td>American Families in Poverty</td>
<td>3</td>
</tr>
<tr>
<td>7760:503</td>
<td>Advanced Food Preparation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 40

Thesis or Project (select one)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7760:694</td>
<td>Master's Project</td>
<td>5</td>
</tr>
<tr>
<td>7760:699</td>
<td>Master's Thesis in Health Professions</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: The M.S. in Nutrition and Dietetics is not a route to becoming a Registered Dietitian (R.D.). Students interested in becoming R.D.'s should contact the School for proper course selection, some of which can be done at the graduate level.

Food and Consumer Science Option (H40102MA)
(admissions temporarily suspended)

• Core Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:575</td>
<td>Analysis of Food</td>
<td>3</td>
</tr>
<tr>
<td>7760:576</td>
<td>Developments in Food Science</td>
<td>3</td>
</tr>
<tr>
<td>7400:520</td>
<td>Experimental Foods (if taken at the undergraduate level, choose 3 additional credits from option electives)</td>
<td>3</td>
</tr>
</tbody>
</table>

• 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):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:500</td>
<td>Food Plants</td>
<td>2</td>
</tr>
<tr>
<td>3250:540</td>
<td>Special Topics: Economics/World Food Problems</td>
<td>4</td>
</tr>
<tr>
<td>7760:574</td>
<td>Cultural Dimensions of Food</td>
<td>3</td>
</tr>
</tbody>
</table>

7760:585 Seminar in Family and Consumer Sciences (Food Science topic) 2-3
7760:570 The Food Industry: Analysis and Field Study 3
7760:503 Advanced Food Preparation 3
7760:524 Nutrition in the Life Cycle 3
7760:624 Advanced Human Nutrition I 3
7760:625 Advanced Human Nutrition II 3
7760:688 Practicum in Family and Consumer Sciences 3

• Cognate Electives:

Select 5-8 credits with approval of advisor from the School of Nutrition and Dietetics OR from a cognate area outside the School OR from a combination of the two.

• Thesis or Project (select one):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7760:694</td>
<td>Master's Project</td>
<td>5</td>
</tr>
<tr>
<td>7760:699</td>
<td>Master's Thesis in Health Professions</td>
<td>5</td>
</tr>
</tbody>
</table>

Total 40

Note: Students in all of the options who are working on a master’s thesis may elect to take the course 7760:690 Thesis Research/Reading. This course will not, however, count as part of the required 40-42 credits in the program.

Speech-Language Pathology and Audiology

The School of Speech-Language Pathology and Audiology offers a Master of Arts degree in Speech-Language Pathology in addition to a Master of Arts in Child Life. 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 (H70006MA)

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 are accepted and considered only once per year for the Fall term. Admission is competitive.

Applications for admission for the following academic year should be received by January 1.

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7700:540</td>
<td>Augmentative Communication</td>
<td>3</td>
</tr>
<tr>
<td>7700:561</td>
<td>Organization and Administration: Public School Speech-Language and Hearing Programs</td>
<td>2</td>
</tr>
<tr>
<td>7700:590</td>
<td>Workshop</td>
<td>1-3</td>
</tr>
<tr>
<td>7700:585</td>
<td>Developmental Disabilities</td>
<td>2</td>
</tr>
<tr>
<td>7700:611</td>
<td>Research Methods in Communicative Disorders I</td>
<td>3</td>
</tr>
<tr>
<td>7700:620</td>
<td>Articulation</td>
<td>2</td>
</tr>
<tr>
<td>7700:623</td>
<td>Support Systems for Indiv and Families with Communicative Disorders</td>
<td>2</td>
</tr>
<tr>
<td>7700:624</td>
<td>Neurogenic Speech and Language Disorders</td>
<td>3</td>
</tr>
<tr>
<td>7700:626</td>
<td>Voice and Cleft Palate</td>
<td>3</td>
</tr>
<tr>
<td>7700:627</td>
<td>Stuttering: Theories and Therapies</td>
<td>2</td>
</tr>
<tr>
<td>7700:628</td>
<td>Topics in Differential Diagnosis of Speech and Language Disorders</td>
<td>2</td>
</tr>
<tr>
<td>7700:630</td>
<td>Clinical Issues in Child Language</td>
<td>4</td>
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<tr>
<td>7700:631</td>
<td>Acquired Brain Injury</td>
<td>3</td>
</tr>
<tr>
<td>7700:632</td>
<td>Dysphagia</td>
<td>3</td>
</tr>
<tr>
<td>7700:633</td>
<td>Professional Issues</td>
<td>2</td>
</tr>
<tr>
<td>7700:639</td>
<td>Audiology for the Speech-Language Pathologist</td>
<td>3</td>
</tr>
<tr>
<td>7700:650</td>
<td>Advanced Clinical Pracicum: Speech-Language Pathology (three registrations)</td>
<td>3</td>
</tr>
<tr>
<td>7700:695</td>
<td>Externship: Speech Pathology and Audiology (two registrations)</td>
<td>6 each</td>
</tr>
<tr>
<td>7700:696</td>
<td>Externship Seminar (two registrations)</td>
<td>1 each</td>
</tr>
</tbody>
</table>

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 7760:696 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.
Child Life Specialist
(H40109MA: Non-thesis Option)
(H40109MAT: Thesis Option)

Admission Requirements
Application materials must be received by February 1 for fall enrollment.
- Minimum GPA of 2.75 for four years of undergraduate study or 3.0 for the last two years of undergraduate study.
- Graduate Record Examination score report within the last five years preceding application
- Child Life Application (submitted to program director)
- Three letters of recommendation
- Statement of purpose
- Resume
- Have completed 50 hours of experience with children beyond the classroom
- Earned at least a “B” in Direct Experience course. Additional coursework will be required if undergraduate degree does not meet the curriculum requirements and is not in a related field.
- Successfully pass an interview with University faculty and local child life specialists. Interview dates are scheduled in March.

Program Requirements
- Core Courses:
  7400:546 Culture, Ethnicity, and Family (online) 3
  7760:500 Nutrition Communication and Education of Children (online) 4
  5600:651 Techniques of Counseling 3
  7700:551 Child in the Hospital (lab) 7
  7400:555 Practicum Experience in a Child Life Program 3
  7700:584 Hospital Settings, Children, and Families (lab) 3
  7700:552 Children, Illness, and Loss 3
  7700:595 Child Life Internship 5
- Cognate:
  5600:622 Introduction to Play Therapy and Research Methods 3

Select three credits with approval of advisor within the Child Life Program OR from a cognate area outside of the program.
- Thesis or Project (select one):
  7760:694 Master’s Project 5
  7760:699 Master’s Thesis in Health Professions 5

Nonthesis (Select nine credits from the following list; at least 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
7760:585 Seminar in Health Professions 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
7700:695 Internship: Advanced Programming in Child Life 5

Total for Master’s Project or Master’s Thesis 42
Total for Nonthesis Option 46

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:
- Graduate application form accompanied by the application fee
- 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.

The applicant must submit the following to the School of Social Work:
- An essay of 3-5 typed pages explaining:
  a) why he/she wants to be a social worker;
  b) why a graduate degree is felt to be necessary to fulfill his/her personal or professional objectives;
  c) his/her views regarding diversity in society;
  d) a situation in which he/she was the recipient/provider of help, emotionally, socially, or economically, and if/how this situation impacted the desire to pursue an advanced degree in social work.
- A recent resume which highlights social work or human service experience.
- Three letters of reference/recommendation forms (including one from immediate supervisor, if employed).
- A completed Application Checklist.
- Preferred Program Format Form.

In addition, applicants to the Joint MSW program must have:
- Undergraduate degree in social work or a related field.
- Minimum GPA of 3.00 in all coursework taken prior to application for admission to the Joint MSW full-time or part-time program.
- 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. 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 a bachelor’s degree program or advanced social work program accredited by the Council on Social Work Education.

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 3.2 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 undergraduate field evaluations;
- For students graduating in May, acceptance will be contingent upon receipt of a final transcript and proof of BSW degree.

Applications 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.

Students 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 Education. The credits must fall within the six-year time limit for degree completion. A grade of “B” or better is required for transfer credit. The Admissions Committee will determine acceptance of transfer credit. Credit will not be given for work or life experience. Transfer students must submit field work evaluations at the time of application for admission.

Program Requirements:
- Complete a minimum of 60 graduate credits of approved courses in social work with an average grade of “B” or better on all classroom courses and satisfactory grades in all field courses. Students must register only for 600-level courses.
- Complete an approved program of courses which include the following required courses:

Full Time Program
First Year Professional Foundation:
- Fall Semester
  7750:601 Foundation Field Practicum 3
  7750:605 Social Work Practice with Small Systems 3
  7750:622 Fundamentals of Research I 3
  7750:631 Human Behavior and Social Environment: Small Social Systems 3
  7750:646 Social Welfare Policy I 3
- Spring Semester
  7750:602 Foundation Field Practicum 3
  7750:606 Social Work Practice with Large Systems 3
  7750:647 Social Welfare Policy II 3
  7750:623 Fundamentals of Research II 3
  7750:632 Human Behavior and Social Environment: Large Systems 3

Second Year Concentrations (Direct Practice):
- Fall Semester
  7750:603 Advanced Field Practicum 3
  7750:607 Advanced Practice with Small Systems I 3
  7750:611 Dynamics of Racism and Discrimination 3
  7750:683 Psychopathology and Social Work 3
  One elective 3
- Spring Semester
  7750:604 Advanced Field Practicum 3
  7750:608 Advanced Practice with Small Systems II 3
  7750:675 Program Evaluation 3
  Two electives 6

Second Year Concentrations (Macro Practice):
- Fall Semester
  7750:603 Advanced Field Practicum 3
  7750:611 Dynamics of Racism and Discrimination 3
  7750:674 Community, Economic Systems and Social Policy Analysis 3
  7750:672 Community Organization and Planning 3
  One elective 3
- Spring Semester
  7750:604 Advanced Field Practicum 3
  7750:671 Social Work Administration 3
  7750:673 Strategies of Community Organization 3
  7750:675 Program Evaluation 3
  One elective 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
  7750:683 Psychopathology and Social Work 3
  7750:603 Advanced Practice with Small Systems I 3
  7750:603 Advanced Field Practicum 3
  One elective 3
- Spring Semester
  7750:675 Program Evaluation 3
  7750:608 Advanced Practice with Small Systems II 3
  7750:604 Advanced Field Practicum 3
  Two electives 6

Macro Practice Concentration
- Summer Semester
  7750:650 Advanced Standing Integrative Seminar 6
- Fall Semester
  7750:611 Dynamics of Racism and Discrimination 3
  7750:672 Community Organization and Planning 3
  7750:674 Community, Economic Systems and Policy Analysis 3
  7750:603 Advanced Field Practicum 3
  One elective 3
- Spring Semester
  7750:671 Social Work Administration 3
  7750:673 Strategies of Community Organization 3
  7750:675 Program Evaluation 3
  7750:604 Advanced Field Practicum 3
  One elective 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:

- Spring Semester (Second Year)
  7750:650 Advanced Standing Integrative Seminar 6
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.

**Nursing**

The School of Nursing offers a variety of programs intended to prepare nurses for various roles and levels of practice. The programs are designed to promote a comprehensive understanding of health and the needs of individuals, families, communities, and populations. The program curriculum is designed to provide opportunities for students to develop critical thinking, leadership, and ethical decision-making skills.

**Admission**

Admission to the Nursing program is competitive. Applicants must meet the following requirements:

- Baccalaureate degree in nursing from an NLNAC or CCNE accredited nursing program.
- GRE (preferred) or Miller Analogies Test taken within the last five years for the Nurse Anesthesia program.
- 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, and basic health assessment.

The University of Akron 2012-2013
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, Child and Adolescent Health Nursing, and Nurse Anesthesia. Graduates are prepared for advanced practice as clinical nurse specialists, nurse practitioners, or nurse anesthetists, or for roles as administrators or educators. The curriculum is based on 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 pathophysiologic 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 RNs who are interested in obtaining the baccalaureate degree in nursing and/or continuing on to a master’s degree in nursing. Students must complete 68-69 hours of prerequisite undergraduate coursework prior to acceptance into the sequence. The RN program consists of 32 credit hours of upper-division baccalaureate coursework. Students wishing to begin work on the Master’s degree RN/MSN option may do so while meeting the baccalaureate requirements and must apply to the graduate program in the fall or early spring prior to graduation. Additional admission requirements and a graduate research class (Inquiry I) are part of the RN/MSN option. Continuation in the graduate program is predicated on meeting graduate program requirements and acceptance into the graduate nursing program.

Advanced Practice Options
Options are provided for advanced practice as a clinical nurse specialist, nurse practitioner, or nurse anesthetist, or for advanced roles as an administrator. Requirements for admission include at least one year of practice in the area of interest.
The Master of Science in Nursing curriculum requires from 36 to 60 credits, depending on the Advanced Practice option selected by the student.

Core courses required of all students:
8200:603 Theoretical Basis for Nursing 3
8200:606 Information Management in Advanced Nursing Practice 3
8200:607 Policy Issues in Nursing 2
8200:608 Pathophysiological Concepts of Nursing Care I (*) 3
8200:613 Nursing Inquiry I 3
8200:615 Nursing Inquiry II 3 or 8200:618 Nursing Inquiry II 3
8200:699 Master’s Thesis 1-6

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

(*) Anesthesia students take 8200:561 and 8200:562

• Nurse Anesthesia (820300MSN)
The Anesthesia Track (60 credit hours) is accredited by the Council on Accreditation of Nurse Anesthesia Programs. The Nurse Anesthesia track meets certification requirements through the American Association of Nurse Anesthetists’ Council on Certification of Nurse Anesthetists (CCNA).
8200:561 Advanced Physiological Concepts in Health Care I 3
8200:562 Advanced Physiological Concepts in Health Care II 3
8200:563 Pathophysiology for Nurse Anesthetists 3
8200:637 Nurse Anesthesia Residency I 4
8200:640 Scientific Components of Nurse Anesthesia 3
8200:641 Pharmacology for Nurse Anesthesia I 3
8200:642 Introduction to Nurse Anesthesia 2
8200:643 Principles of Anesthesia I 4
8200:644 Pharmacology for Nurse Anesthesia II 3
8200:645 Principles of Anesthesia II 4
8200:646 Nurse Anesthesia Residency II 4
8200:647 Professional Role Seminar 2
8200:648 Nurse Anesthesia Residency III 4
8200:649 Nurse Anesthesia Residency IV 4

• CRNA-MSN Anesthesia Option
8200:640 Scientific Components of Nurse Anesthesia 3
8200:641 Pharmacology for Nurse Anesthesia I 3
8200:642 Introduction to Nurse Anesthesia 2
8200:644 Principles of Anesthesia I 4
8200:645 Principles of Anesthesia II 4
8200:647 Professional Role Seminar 2

• 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.
7400:585 Nutrition for Pediatric Nurse Practitioners 2
8200:650 Pediatric/Adolescent Assessment 3
8200:651 Child and Adolescent Health Nursing I 3
8200:652 Child and Adolescent Health Nursing I Practicum 2
8200:653 Child and Adolescent Health Nursing II Practicum 2
8200:655 Child and Adolescent Health Nursing II 3
8200:656 Pharmacology for Child and Adolescent Health Nursing 3
8200:657 Child and Adolescent Health Nursing I Practicum 3
8200:658 Child and Adolescent Health Nursing I 3
8200:659 Child and Adolescent Health Nursing II Practicum 2
8200:660 Child and Adolescent Health Nursing II 3
8200:661 Child and Adolescent Health Nursing III Practicum 2
8200:662 Child and Adolescent Health Nursing III 3
8200:663 Pediatric/Adolescent Assessment 3
8200:664 Child and Adolescent Health Nursing IV Practicum 2
8200:680 Child and Adolescent Health Nursing IV 3
8200:681 Pediatric/Adolescent Assessment 3
8200:682 Child and Adolescent Health Nursing IV Practicum 2
8200:683 Child and Adolescent Health Nursing IV 3
8200:684 Pediatric/Adolescent Assessment 3
8200:685 Child and Adolescent Health Nursing-VAcute Care I Practicum 3
8200:686 Child and Adolescent Health Nursing-VAcute Care I 3
8200:687 Child and Adolescent Health Nursing-VAcute Care II Practicum 2
8200:688 Child and Adolescent Health Nursing-VAcute Care II 3
8200:689 Pediatric/Adolescent Assessment 3
8200:690 Child and Adolescent Health Nursing-VAcute Care II Practicum 2
8200:691 Pediatric/Adolescent Assessment 3
8200:692 Child and Adolescent Health Nursing-VAcute Care III Practicum 2
8200:693 Child and Adolescent Health Nursing-VAcute Care III 3
8200:694 Pediatric/Adolescent Assessment 3
8200:695 Child and Adolescent Health Nursing-VAcute Care III Practicum 2
8200:696 Child and Adolescent Health Nursing-VAcute Care IV Practicum 2
8200:697 Child and Adolescent Health Nursing-VAcute Care IV 3

• 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 and Nurses (PCPN/PN). Emphasis is on the primary health care needs of children and adolescents.
7400:585 Nutrition for Pediatric Nurse Practitioners 2
8200:650 Pediatric/Adolescent Assessment 3
8200:651 Child and Adolescent Health Nursing I 3
8200:652 Child and Adolescent Health Nursing I Practicum 2
8200:653 Child and Adolescent Health Nursing II Practicum 2
8200:654 Child and Adolescent Health Nursing III Practicum 2
8200:655 Child and Adolescent Health Nursing II 3
8200:656 Pharmacology for Child and Adolescent Health Nursing 3
8200:657 Child and Adolescent Health Nursing III 3
8200:658 Child and Adolescent Health Nursing IV Practicum 2
8200:660 Child and Adolescent Health Nursing IV 3
8200:661 Child and Adolescent Health Nursing-VAcute Care I Practicum 3
8200:662 Child and Adolescent Health Nursing-VAcute Care I 3
8200:663 Pediatric/Adolescent Assessment 3
8200:664 Child and Adolescent Health Nursing-VAcute Care II Practicum 2
8200:665 Child and Adolescent Health Nursing-VAcute Care II 3
8200:666 Pediatric/Adolescent Assessment 3
8200:667 Child and Adolescent Health Nursing-VAcute Care III Practicum 2
8200:668 Child and Adolescent Health Nursing-VAcute Care III 3
8200:669 Pediatric/Adolescent Assessment 3
8200:670 Child and Adolescent Health Nursing-VAcute Care IV Practicum 2
8200:671 Pediatric/Adolescent Assessment 3
8200:672 Child and Adolescent Health Nursing-VAcute Care IV 3

• Child and Adolescent Health Nurse Practitioner (Primary/Acute Care) (820308MSN)
The Child and Adolescent Health Nurse Practitioner track (Primary/Acute Care) (55 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.

• Psychiatric Mental Health Nursing (820306MSN)
Psychiatric Mental Health Nursing Track (46 credit hours and meets eligibility requirements for certification through American Nurses Credentialing Center [ANCC] as psychiatric clinical nurse specialist or psychiatric nurse practitioner).
• 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 (FMHNP).

Additional courses from existing programs:

8200:650 Advanced Pediatric/Adolescent Assessment 3
8200:663 Psychiatric Mental Health APN Internship 1-4
5600:648 Individual and Family Development Across the Lifespan 3
5600:680 Counseling Children

• 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. (39 credits)

8200:610 Advanced Adult/Gerontological Assessment with Practicum 3
8200:612 Advanced Clinical Pharmacology 3
8200:671 Adult/Gerontological Health Nursing CNS I 2
8200:674 Adult/Gerontological Health Nursing CNS I Practicum 2
8200:675 Adult/Gerontological Health Nursing CNS I 2
8200:676 Adult/Gerontological Health Nursing CNS II Practicum 2
8200:677 Adult/Gerontological Health Nursing CNS II 2
8200:678 Adult/Gerontological Health Nursing CNS III Practicum 2
8200:679 Adult/Gerontological Health Nursing CNS III 2
8200:673 Adult/Gerontological Health Nursing CNS IV Practicum 3
8200:672 Adult/Gerontological Health Nursing CNS IV 3

• Adult Gerontological Health Nurse Practitioner (820303MSN)

Meets eligibility requirements for certification through American Nurses Credentialing Center (ANCC) and American Academy of Nurse Practitioners (AANP). (48 credits)

Students must achieve a “B-” or higher in core specialty courses: 8200:608 Pathophysiological Concepts, 8200:610 Advanced Adult/Gerontological Assessment with Practicum, and 8200:612 Advanced Clinical Pharmacology and in all Adult/Gerontological Specialties Clinical track courses required to progress in the Adult/Gerontological Health Nurse Practitioner track.

8200:610 Advanced Adult/Gerontological Assessment with Practicum 3
8200:612 Advanced Clinical Pharmacology 3
8200:620 Adult/Gerontological Health Nursing NP I 2
8200:621 Adult/Gerontological Health Nursing NP II Practicum 2
8200:622 Adult/Gerontological Health Nursing NP III 2
8200:624 Adult/Gerontological Health Nursing NP IV Practicum 2
8200:627 Adult/Gerontological Health Nursing NP I Practicum 2
8200:628 Adult/Gerontological Health Nursing NP II Practicum 2
8200:629 Adult/Gerontological Health Nursing NP III Practicum 2
8200:631 Adult/Gerontological Health Nursing NP IV Practicum 2
8200:690 Clinical Management I 3
8200:692 Clinical Management II 3
8200:694 Clinical Management III 3

Advanced Role Option

• Nursing Administration (36 credits) (820307MSN)

8200:630 Resource Management in Nursing Settings 3
8200:632 Fiscal Management in Nursing Administration 3
8200:633 Nursing Leadership in Nursing Organizations I 3
8200:634 Nursing Leadership in Nursing Organizations II 3
8200:635 Organizational Behavior in Nursing Settings 3
8200:636 Practicum Nursing Administration I 2
8200:639 Practicum Nursing Administration II 2

Additional Courses:

8200:xxx Elective 3

†Cognate electives may be substituted for 8200:608 in the Administration option

Graduate Degree Completion Program for the Certified Registered Nurse Anesthetist

The Graduate Degree Completion Program for Certified Registered Nurse Anesthetist (CRNAs) is designed to give practicing CRNAs the opportunity to complete additional course work that integrates their current clinical expertise within the framework of advanced practice nursing at the master’s level. This program allows CRNAs to advance their current status to be congruent with the master’s level education mandated for all current nurse anesthesia educational programs.

Admission Requirements:

• Evidence of successful completion of an accredited program of nurse anesthesia
• Evidence of successful completion of an accredited BSN program
• Current certification/recertification as a CRNA
• Current employment as a CRNA
• Three professional recommendations
• Satisfactory completion of a graduate-level statistics course

Program Requirements:

• Professionalism Core:

8200:607 Theoretical Basis 3
8200:607 Policy Issues in Nursing 2

• Inquiry Core:

3470:689 Statistics 3
8200:606 Information Management in Advanced Nursing Practice 3
8200:613 Inquiry I 3
8200:618 Inquiry II 3

• Additional Courses:

8200:704 Advanced Clinical Pharmacology Across the Lifespan 3
8200:632 Fiscal Management in Nursing 3
8200:630 Resource Management in Nursing 3
8200:635 Organizational Behaviors in Nursing 3
8200:xxx Elective 3

Total 3

Master of Public Health (830000MPH)

The Consortium of Eastern Ohio Master of Public Health (CEOMPH) program is a partnership between The University of Akron, Cleveland State University, Northern Ohio Medical University, 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. Student can choose electives toward their areas of interest. This MPH degree is a generalist degree. 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, P.O. 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:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8300:601</td>
<td>Public Health Concepts</td>
<td>3</td>
</tr>
<tr>
<td>8300:602</td>
<td>Social and Behavioral Sciences in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>8300:603</td>
<td>Epidemiology in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>8300:604</td>
<td>Biostatistics in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>8300:605</td>
<td>Health Services Administration in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>8300:606</td>
<td>Environmental Health Sciences in Public Health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>18</td>
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• Generalist Track (required):

<table>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8300:608</td>
<td>Public Health Practice and Issues</td>
<td>3</td>
</tr>
<tr>
<td>8300:610</td>
<td>Grant Writing for Public Health Practice</td>
<td>3</td>
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</table>

• Additional program requirements:

<table>
<thead>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8300:698</td>
<td>Capstone Project I</td>
<td>3</td>
</tr>
<tr>
<td>8300:699</td>
<td>Capstone Project II</td>
<td>3</td>
</tr>
<tr>
<td>8300:696</td>
<td>Practicum</td>
<td>1-3</td>
</tr>
<tr>
<td>8300:695</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>8300:680-689</td>
<td>Special Topics</td>
<td>1-5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

A portfolio and exit presentation are also required of each student for graduation.
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 1910 when Professor Charles M. Knight began offering courses in rubber chemistry. Master’s theses treating rubber chemistry on the University library shelves date to 1920. The University began developing major laboratories in 1942 under the leadership of Professor G.S. Whitby, and the UA program played a significant role in the synthetic rubber industry of the U.S. government during World War II. An Institute of 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 1983 and a Department of Polymer Engineering in the College of Engineering in January 1984 with Professor James L. White as director and department chair to give thrust to polymer processing and engineering applications.

In 1988 the College of Polymer Science and Polymer Engineering was established to consolidate the administration of the two academic departments, the Institute of Polymer Science and the renamed Institute of Polymer Engineering.

MISSION STATEMENT

The mission of the College of Polymer Science and Polymer Engineering is to serve its students through a high quality educational experience, incorporating both classroom and laboratory learning, as well as a stimulating research environment. Its graduates and former research associates provide a well-trained workforce for employers throughout the world, but especially for the State of Ohio. With the generation of new knowledge from research and the application of that knowledge, the College serves society with benefits to both the economy and the environment.

- The primary purpose of the College is to educate its students in the science and engineering of polymers. Since the College is involved principally in graduate level education (M.S. and Ph.D.), its students are taught the skills of research by the faculty; occasionally assisted by visiting scientists, and post-doctoral associates.
- The involvement of the College faculty, students and associated staff in research provides a further purpose, i.e., to develop new knowledge concerning polymeric materials and processes, and to disseminate that knowledge to the broader community of researchers, technologists, and manufacturers who employ that knowledge to their own aims.
- The College provides a variety of services through its institutes and centers to aid the economic and cultural development of our society. Individual faculty members provide services as consultants to industry, government, and civic institutions, concerning the developments in knowledge and applications of polymers.
- An additional function of the College is to provide training for those individuals who wish to improve their skills and knowledge concerning various types of polymers, their properties, processes and uses. Undergraduate students from other colleges within the University participate in specialized courses taught by the polymer college faculty as they pursue their traditional degree programs. Also, a variety of non-credit offerings are presented as continuing education, intensive short courses, and seminars.

DESCRIPTION

The College of Polymer Science and Polymer Engineering carries out a program of research and education, primarily at the graduate level, and serves as a major intellectual resource for the scientific and technological development of polymers and related materials and processes. The college consists of the Department of Polymer Science, the Department of Polymer Engineering, the Maurice Morton Institute of Polymer Science and the Institute of Polymer Engineering.

The Department of Polymer Science and The Institute of Polymer Science, emphasize polymer synthesis, the physical chemistry, physics and mechanical behavior and technology of polymers, and many of their applications. The Department of Polymer Engineering and the Institute of Polymer Engineering, emphasize polymer processing (including reactive processing), solid state structure/morphology and properties of polymers as related to process history as well as engineering analysis and design. Collaborative research among the faculty in the two departments is common and provides a unique environment and capability for solving modern-day problems. This provides a fertile environment for students to obtain multidisciplinary training.

ADMISSION REQUIREMENTS

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 graduate level in calculus, organic chemistry, thermodynamics, and physics. For highly qualified students lacking no 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 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

An interdisciplinary program leading to the Doctor of Philosophy in Polymer Science is administered by the Department of Polymer Science. Graduates from the three main disciplines (chemistry, physics and engineering) are guided into the appropriate courses of study and research in that field under the supervision of a faculty member. Research facilities of the Institute of Polymer Science are available for dissertation research. Students may be admitted directly to the Ph.D. program upon screening of their qualifications and recommendation by the department chair and dean.

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

- Complete a course of study prescribed by the student’s advisory committee based on the committee’s judgment of the student’s background and on the result of any special examinations it might impose. This course will consist of a minimum of, but usually more than, 36 credits in graduate courses, or their equivalent, plus sufficient Ph.D. research credits to make a total of 84 credits (exclusive of Master of Science thesis credit). Credits for participation in either Polymer Science of Polymer Engineering seminars do not apply toward the degree. At least 18 credits of graduate course work and all dissertation credits must be completed at the University.

There is a university minimum residence time requiring one year, although graduate students starting with a B.S. or B.A. typically spend 4 years in residence.
Completion of 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
- 9871:674 Polymer Structure and Characterization
- 9871:675 Polymer Thermodynamics
- 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
- 9871:613 Polymer Science Laboratory

Completion of 19 credits of elective courses appropriate to each student’s area of interest.

Pass six cumulative examinations which are given once a month for eight months of the year (none in June, July, August, or December). Candidates must begin taking cumulative exams after completion of their second semester. Thereafter, students are required to take all of the exams until they pass six. (A maximum of 24 total cumulative examinations may be taken)

Complete 9871:607.8 Polymer Science Seminar I and II.

Attendance at and participation in seminar-type discussions scheduled by the department. Credits for participation in either polymer science or polymer engineering seminars do not apply toward the degree.

Present a public/departamental seminar on the completed research.

Pass an oral examination upon completion of a research dissertation.

Demonstrate competency in computer programming.

Pass the general requirements for the Doctor of Philosophy degree.

Satisfy the foreign language requirement for the doctoral degree by meeting the requirement 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 (98401PHD)

The Department of Polymer Engineering administers a graduate program in which students, with primarily engineering backgrounds, are guided through a course of study and research under the supervision of a faculty member. Students may be admitted directly to the Ph.D. program upon screening of their qualifications and recommendation by the department chair and dean.

Students in Polymer Engineering will earn the degree of Doctor of Philosophy in Polymer Engineering. Requirements in the interdisciplinary field of Polymer Engineering for that degree are as follows:

- Complete courses as developed in a plan of study approved by the student’s advisor and the department chair. A minimum of 96 credits of graduate work must be earned. A total of 36 credit hours of lecture courses and 60 credit hours of research must be completed. Twelve credit hours of the 60 credits must be dissertation research.
- Polymer engineering core (12 credits):
  - 9841:611 Structural Characterization of Polymers with Electromagnetic Radiation
  - 9841:621 Rheology of Polymeric Fluids
  - 9841:622 Analysis and Design of Polymer Processing Operations I
  - 9841:631 Engineering Properties of Solid Polymers
  - 9841:641 Polymeric Materials Engineering Science
- Polymer Engineering 600-level electives (9 credits):
  - 9841:601 Polymer Engineering Seminar
  - 9841:623 Analysis and Design of Polymer Processing Operations II
  - 9841:650 Basic Engineering for Polymer Engineers
  - 9841:651 Polymer Engineering Laboratory
  - 9841:661 Polymerization Reactor Engineering
  - 9841:675 Carbon-Polymer Nanotechnology
  - 9841:680 Polymer Coatings

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

Technical electives (2 credits):

- 3450:xxx Approved Mathematics
- 4300:681 Advanced Engineering Materials
- 4600:622 Continuum Mechanics
- 9841:xxx Approved Polymer Engineering
- 9871:613 Polymer Science Laboratory
- 9871:674 Polymer Structure and Characterization
- 9871:675 Polymer Thermodynamics

Polymer Engineering 700-level electives (10 credits):

- 9871:6xx Electives

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):

Students may take a combination of 9841:898 (Preliminary Research) and 9841:899 (Doctoral Dissertation) to meet this requirement, however, a minimum of 12 credits of the total 60 required must be of 9841:899.

Foreign Language Requirement:

Additionally, a foreign language or research technique (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.

Each doctoral student 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 course credit requirement.

A student entering with a master’s degree or graduate credits from another institution may be given 18 credit hours toward the lecture course requirement.

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 credits in the following required core courses in polymer science: 9871:601 Polymer Concepts; 613 Polymer Science Laboratory; 631 Physical Properties of Polymers I; 674 Polymer Structure and Characterization; 701 Polymer Technology.
- Completion of 13 credit hours of elective courses appropriate to each student’s area of interest.
- Completion of a research project (9871:699) 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.
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.

BE/MS Program with BE in Polymer Materials and Engineering at Beijing University of Chemical Technology and MS Polymer Science at UA
(987013MS)
This five-year program involves initial completion of three years of BE coursework in Polymer Materials and Engineering at BUCT followed by two years of graduate coursework and research in the Department of Polymer Science at The University of Akron. BUCT will award the BE degree in Polymer Materials and Engineering to the students of this program after completion of the fourth year of coursework at The University of Akron.

Students will be admitted in the MS program at The University of Akron after completing three years of BE coursework at BUCT or equivalent. Students intending to enroll in the BE/MS program will consult the faculty counselors both at BUCT and The University of Akron during their study at BUCT. The Graduate School at The University of Akron will handle their admission using a special category, and the admission committee of the Department of Polymer Science will evaluate the applications of potential students in their third year. The MS degree in Polymer Science is awarded at the completion of the MS degree requirements, which would typically be at the end of the fifth year.

Requirements for the master’s degree coursework at The University of Akron are identical to the standard requirements for the MS in Polymer Science.

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 Polymeric 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 Polymeric Engineering Laboratory  3
  9841:661 Polymerization Reactor Engineering  3
  9841:675 Carbon-Polymer Nanotechnology  3
  9841:680 Polymer Coatings  3

- Technical electives (6 credits):

  3450:xxx Approved Mathematics  3
  4300:681 Advanced Engineering Materials  3
  4600:622 Continuum Mechanics  3
  8941:xxx Approved Polymer Engineering  3
  8971:613 Polymer Science Laboratory  2
  8971:674 Polymer Structure and Characterization  2
  8971:675 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 theBasic Engineering exam and does not have to take the exam. Students who achieve a “B-” or lower in the course will 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
(984021MSPE)
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:

- 3450:539 Advanced Engineering Mathematics II*  3
- 9841:550 Engineering Properties of Polymers*  3
- 9841:641 Polymeric Materials Engineering Science  2
- 9841:650 Basic Engineering for Polymer Engineers  3
- 9841:651 Polymerization Reactor Engineering  3
- 9841:661 Polymer Engineering Seminar**  1
- 9841:671 Structural Characterization of Polymers with Electromagnetic Radiation  2
- 9841:672 Rheology of Polymers  3
- 9841:673 Polymer Engineering Laboratory  3
- 9841:675 Analysis and Design of Polymer Processing Operations I  3
- 9841:680 Electives  3
- 9841:699 Master’s Thesis  3

*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 degree requirements, 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 BS Physics/Chemical Physics at the College of Wooster and MS Polymer Engineering at UA
(984030MSPE)
The five-year BA/MS program at The University of Akron with BS 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 course-
work 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.

Students will receive tuition waivers for graduate courses taken at The University of Akron in the fourth and fifth year and will be eligible to receive stipends in their fifth year similar to other graduate students in Polymer Engineering when they are registered for at least nine graduate credit hours. Students should take at least 24 credits of graduate-level coursework, including two credits of 9841:601. In addition they should take at least six credits of master’s research. This curriculum represents the minimum graduate course requirements for the MS degree and students may take additional graduate technical electives during their fourth and fifth years.

Following are the courses required to be taken at The University of Akron:

**Graduate Courses:**
- 9841:550 Engineering Properties of Polymers 3
- 9841:601 Polymer Engineering Seminar 1
- 9841:611 Structural Characterization of Polymers with Electromagnetic Radiation 2
- 9841:621 Rheology of Polymeric Fluids 3
- 9841:622 Analysis and Design of Polymer Processing Operations I 3
- 9841:631 Engineering Properties of Solid Polymers 2
- 9841:641 Polymeric Materials Engineering Science 2
- 9841:650 Basic Engineering for Polymer Engineers 3
- 9841:651 Polymer Engineering Laboratory 3
- 9841:661 Polymerization Reactor Engineering 3
- 9841:699 Master’s Thesis 1-6

Other graduate courses that may be taken as electives:
- 9841:623 Analysis and Design of Polymer Processing Operations II 3
- 9841:675 Carbon-Polymer Nanotechnology 3
- 9841:680 Polymer Coatings 3

**BE/MS Program with BE in Polymer Materials and Engineering at Beijing University of Chemical Technology and MS Polymer Engineering at UA (984040MSPE)**

This five-year program involves initial completion of three years of BE coursework in Polymer Materials and Engineering at BUCT followed by two years of graduate coursework and research in the Department of Polymer Engineering at The University of Akron, BUCT will award the degree in Polymer Materials and Engineering to the students of this program after completion of the fourth year of coursework at The University of Akron.

Students will be admitted to the MS program at The University of Akron after completing three years of BE at BUCT. Students intending to enroll in the BE/MS program will consult the faculty counselors both at BUCT and The University of Akron during their study at BUCT. The Graduate School at The University of Akron will handle their admission using a special category, and the admissions committee of the Department of Polymer Engineering will evaluate the applications of potential students in their third year. The MS degree in Polymer Engineering is awarded at the completion of the MS degree requirements, which would typically be at the end of the fifth year.

Requirements for the master’s degree coursework at The University of Akron are identical to the standard requirements for the MS in Polymer Engineering.

**Interdisciplinary and Certificate Programs of Study**

**Overview**

To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a major, the student may elect to pursue one of these programs.

Interdisciplinary Studies programs feature courses which integrate and analyze issues and concepts from more than one field. The goal of this type of study is to place knowledge into greater perspective than would be possible through any one traditional field. This is accomplished by taking courses from a variety of departments as well as courses which may be taught together.

Upon completion of any of these programs, a statement will be placed on the student’s permanent record indicating the area of concentration. The certificate indicating the area of concentration will be awarded when the student completes requirements for a degree unless the program specifies that it is free-standing and does not require participation in a degree program.

**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 intense study including advanced clinical practice and theory. The program is built upon a core of advanced assessment, pathophysiology, and pharmacology. Acute Care Nurse Practitioners are prepared to conduct comprehensive physical assessments, appraise health risks and promote health behaviors, order and interpret diagnostic tests, diagnose and manage commonly occurring health problems and diseases. The program consists of 16 credits of graduate-level course work and 525 hours of clinical practice.

**Admission Criteria**

- Hold an MSN degree from a professionally accredited nursing program. Minimum of a 3.0 GPA on a 4.0 scale for the master’s degree program.
- Recent acute/critical care experience (within the past three years).
- A 300 word essay describing professional goals.
- Completion of the following prerequisite courses: graduate level pharmacology, pathophysiology, and advanced assessment.
- Completion of an interview with the selection committee.
- Advanced Cardiac Life Support (ACLS) Certification.

**Program of Study**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:691</td>
<td>Acute Care Nurse Practitioner I</td>
<td>4</td>
</tr>
<tr>
<td>8200:692</td>
<td>Clinical Management II</td>
<td>3</td>
</tr>
<tr>
<td>8200:693</td>
<td>Acute Care Nurse Practitioner II</td>
<td>4</td>
</tr>
<tr>
<td>8200:695</td>
<td>Acute Care Nurse Practitioner III</td>
<td>4</td>
</tr>
<tr>
<td>8200:696</td>
<td>Clinical Reasoning</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**ADDICTION COUNSELING (560102GC)**

Robert C. Schwartz, Ph.D., Coordinator

(Admissions to this program are currently suspended)

The Addiction Counseling certificate program prepares master’s-level practitioners to assess, diagnose, and treat persons with addictive disorders using various counseling strategies. Trainees will complete coursework related to theory, assessment, treatment planning, and treatment of addicted clientele. Trainees will then gain supervised clinical experience specifically related to counseling clients with addictive disorders. Licensed mental health practitioners may list addiction counseling under their identified scope of practice after completion of this certificate program.

**Admission**

Persons are eligible for admission to the Graduate Certificate Program in Addiction Counseling if they are currently enrolled in a master’s degree program counseling or a closely related field or currently hold a master’s degree in counseling or a closely related field. To participate in the program the student should:
- Be formally admitted to The University of Akron as a degree seeking or a special non-degree graduate student.
- Make written application to the program to the Counselor Education Coordinator in the Department of Counseling and Special Education.
- Receive written notification for admission from the Counselor Education Admissions Committee.
- Consult with the Counseling Education Program Coordinator to plan for an internship in an appropriate addictions counseling setting.

**Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>600:732</td>
<td>Addiction Counseling I: Theory and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>600:734</td>
<td>Addiction Counseling II: Treatment Planning and Intervention Strategies</td>
<td>3</td>
</tr>
<tr>
<td>600:685</td>
<td>Internship in Counseling</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Total credit hours</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**ADULT/GERONTOLOGICAL HEALTH NURSING CLINICAL NURSE SPECIALIST**

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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:606</td>
<td>Pathophysiological Concepts</td>
<td>3</td>
</tr>
<tr>
<td>8200:610</td>
<td>Advanced Adult/Gerontological Assessment</td>
<td>3</td>
</tr>
<tr>
<td>8200:612</td>
<td>Advanced Clinical Pharmacology</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:677</td>
<td>Adult/Gerontological Health Nursing CNS III</td>
<td>2</td>
</tr>
<tr>
<td>8200:678</td>
<td>Adult/Gerontological Health Nursing CNS III Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:673</td>
<td>Adult/Gerontological Health Nursing CNS IV</td>
<td>1</td>
</tr>
<tr>
<td>8200:679</td>
<td>Adult/Gerontological Health Nursing CNS IV Practicum</td>
<td>3</td>
</tr>
<tr>
<td>8200:636</td>
<td>Adult/Gerontological Health Nursing CNS Residency</td>
<td>2-4</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>10-12</strong></td>
</tr>
</tbody>
</table>

Total 10-12 credit hours contingent on individual program plan and completion of clinical hours required for certification.

**ADULT/GERONTOLOGICAL NURSE PRACTITIONER**

The Post-MSN certificate program is designed to prepare Adult/Gerontological Clinical Nurse Specialists who are seeking preparation in the role of nurse practitioner as providers of primary health care to adults and older adults. Upon completion of the 18 credit program, the student is eligible to sit for Nurse Practitioner certification examination.

**Admission Criteria**

Ohio RN licensure.

Hold an MSN degree from a professionally accredited nursing program (clinical master’s preferred).

Have a minimum GPA of 3.0 on a 4.0 scale for MSN program.

Minimum of 2-3 years recent clinical experience in adult or gerontological health care.

Complete an application to The University of Akron Graduate School.

Submit a 300 word essay describing professional goals.

Submit a resume outlining prior education and work related experiences.

Complete the following prerequisite courses: graduate level pathophysiology, advanced assessment, advanced clinical pharmacology.

Completion of an interview with the Adult/Gerontological Health Nursing faculty.

**Program of Study**

Students must complete a minimum of 500 clinical hours for eligibility to sit for certification.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:627</td>
<td>Adult/Gerontological Health Practicum NP I</td>
<td>2</td>
</tr>
<tr>
<td>8200:628</td>
<td>Adult/Gerontological Health Practicum NP II</td>
<td>2</td>
</tr>
<tr>
<td>8200:629</td>
<td>Adult/Gerontological Health Practicum NP III</td>
<td>2</td>
</tr>
<tr>
<td>8200:623</td>
<td>Adult/Gerontological Health Practicum NP</td>
<td>2</td>
</tr>
<tr>
<td>8200:690</td>
<td>Clinical Management I</td>
<td>3</td>
</tr>
<tr>
<td>8200:692</td>
<td>Clinical Management II</td>
<td>3</td>
</tr>
<tr>
<td>8200:694</td>
<td>Clinical Management III</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**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.

**Required Core Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:622</td>
<td>Seminar in Alternatives to Violence at Home and Abroad</td>
<td>3</td>
</tr>
<tr>
<td>3850:555</td>
<td>Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>7400:585-006</td>
<td>Seminar: Divorce Mediation Training</td>
<td>3</td>
</tr>
<tr>
<td>7400:585-007</td>
<td>Seminar: Divorce Mediation Training</td>
<td>3</td>
</tr>
</tbody>
</table>

**Elective Courses:** (choose two)*:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3850:523</td>
<td>Sociology of Women</td>
<td>3</td>
</tr>
<tr>
<td>3850:528</td>
<td>Victim in Society</td>
<td>3</td>
</tr>
<tr>
<td>3700:690</td>
<td>Special Topics (conflict related)</td>
<td>1-3</td>
</tr>
<tr>
<td>9200:638**</td>
<td>Family Law</td>
<td>3</td>
</tr>
<tr>
<td>9200:684**</td>
<td>Alternative Dispute Resolution</td>
<td>3</td>
</tr>
</tbody>
</table>

**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.

**Required Core Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:622</td>
<td>Seminar in Alternatives to Violence at Home and Abroad</td>
<td>3</td>
</tr>
<tr>
<td>3850:555</td>
<td>Family Violence</td>
<td>3</td>
</tr>
<tr>
<td>7400:585-006</td>
<td>Seminar: General Mediation Training</td>
<td>3</td>
</tr>
<tr>
<td>7400:585-007</td>
<td>Seminar: General Mediation Training</td>
<td>3</td>
</tr>
</tbody>
</table>

**Elective Courses:** (choose three)*:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3850:521</td>
<td>Race and Ethnic Relations</td>
<td>3</td>
</tr>
<tr>
<td>3700:512</td>
<td>Global Environmental Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:610</td>
<td>Seminar in International Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:690</td>
<td>Special Topics (global conflict related)</td>
<td>1-3</td>
</tr>
<tr>
<td></td>
<td><strong>Total credit hours</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

*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**

(820101GC)

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.

- **3400:640 Reading Seminar: China** (4)
- **3400:610 Comparative Studies in World Civilization** (4)
- **3400:596 Special Studies (in Asian History)** (3)
- **3400:516 Modern India** (3)

**Total credit hours:** 12

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**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 departmental school in which they are enrolled. The student shall schedule courses with the assistance of an advisor at the earliest possible time.

**Electives:** (required – 6 credits):

- **3700:570 Campaign Management I** 3
- **3700:571 Campaign Management II** 3
- **3700:572 Seminar: Political Influence and Organizations** 3
- **3700:695 Internship in Government and Politics** 3

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

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

**Electives:** (required – 6 credits):

- **3700:540 Survey Research Methods** 3
- **3700:541 Political Opinion, Behavior and Electoral Policies** 3
- **3700:577 Lobbying** 3
- **7600:575 Political Communication** 3

Three credits of additional course work from above or from approved courses from Political Science, Communication, Public Administration, or other departments.

**Certificate**

Upon completion of their degree, M.A. in Political Science students who have completed certificate requirements will be awarded an M.A. degree in Political Science with a Certificate in Applied Politics. Majors in other disciplines will be given a Certificate in Applied Politics and have the certificate noted on their transcript.

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**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 in Asian countries.

**Credits will be provided with Director’s approval for study and certain experiences abroad in Asian countries.**

*Field Studies in Geology abroad counts for double credits.

**Recent 500-level Selected Topics in the School of Art have included: “The Art of India,” “The Art of China,” “The Art of Korea and Japan,” and “The Art of Buddhist Japan.” Courses with comparative content are encouraged. Any course that has significant Asian content (and for which the student has presented substantial written work on an Asian topic) may count toward the certificate program with the Director’s approval. Students should consult with the Director for help planning an appropriate course of study.

**Elective Courses:**

- **3370:695 Field Studies in Geology** 3
- **3400:501 Women in Revolutionary China** 3
- **3400:516 Modern India** 3
- **3400:596 Special Studies (in Asian History)** 3
- **3400:610 Reading Seminar: China** 4
- **7100:501 Special Topics** 3

**Interdisciplinary and Certificate Programs**

**CASE MANAGEMENT FOR CHILDREN AND FAMILIES**

*H40202GC*

**Pamela A. Schulze, 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:**

- **7400:610 Child Development Theories** 3
- **7400:602 Family in Life-Span Perspective** 3
- **7400:610 Child Development** 3
- **7400:562 Case Management for Children and Families II** 3
- **7400:563 Practicum in Cross-Systems Case Management for Children and Families** 3

**Electives:**

- **7400:546 Culture, Ethnicity and the Family** 3
- **7400:602 Family in Life-Span Perspective** 3
- **7400:610 Child Development Theories** 3

**Make written application to the program and receive written notification of admission from The Center for Family Studies.**
**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/Adolescent Assessment, Nutrition.

**Program of Study**

Students are required to complete a minimum of 500 clinical practice hours in conjunction with the Child and Adolescent Health Nursing courses.

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:651 Child and Adolescent Health Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>8200:652 Child and Adolescent Health Nursing I Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:655 Child and Adolescent Health Nursing II</td>
<td>3</td>
</tr>
<tr>
<td>8200:653 Child and Adolescent Health Nursing II Practicum</td>
<td>2</td>
</tr>
<tr>
<td>8200:656 Pharmacology for Child and Adolescent Health Nursing</td>
<td>3</td>
</tr>
<tr>
<td>8200:658 Child and Adolescent NP Internship (required 4 credits)</td>
<td>1-4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**Optional Courses:**

- 8200:657 History of English Language 3
- 8200:658 U.S. Dialects: Black and White 3
- 8200:659 Grammatical Structures of English 3
- 8200:660 Theory of Rhetoric 3
- 8200:661 Seminar in English: Sociolinguistics 3
- 8200:663 Modern Linguistics 3
- 8200:667 Seminar in English: Stylistics 3
- 8200:669 Seminar in English: Contextual Linguistics 3

**COMPOSITION**  
(330002GC)

Lance Svehla, Ph.D., Director

**Requirements**

To be eligible for the certificate in composition, a person must be admitted to the University as a graduate student (with either full or provisional status). An eligible person interested in the program should contact the program director. Five courses in composition or linguistics are required. Other appropriate English courses in composition or linguistics may be substituted as optional courses with the permission of the director.

**Required Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:676 Theory and Teaching of Basic Composition</td>
<td>3</td>
</tr>
<tr>
<td>3300:673 Theories of Composition</td>
<td>3</td>
</tr>
<tr>
<td>3300:674 Research Methodologies in Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

**Optional Courses:**

- 3300:670 History of English Language 3
- 3300:671 U.S. Dialects: Black and White 3
- 3300:672 Grammatical Structures of English 3
- 3300:673 Theory of Rhetoric 3
- 3300:674 Seminar in English: Sociolinguistics 3
- 3300:675 Modern Linguistics 3
- 3300:676 Seminar in English: Stylistics 3
- 3300:679 Seminar in English: Contextual Linguistics 3

**DIVORCE MEDIATION**  
(H40201GC)

Pamela A. Schulze, 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.

- Applicants to the program should have previously earned a law degree or a master’s degree (at minimum in the behavioral sciences, such as psychology, social work, counseling, and marriage and family therapy, or child and family development).
- Applicants planning to pursue the certificate must apply to the Center for Family Studies and the Graduate School for admission as non-degree students.
- Persons currently working toward a doctorate or Juris Doctor at the University may participate in the certificate program as a cognate or minor. In this case, students must receive permission from their academic department as well as admission from the Center for Family Studies. Since the educational preparation prior to entry to this program will be quite diverse, the selection of courses within the certificate will vary among the participants. However, all students are expected to complete the core courses in addition to 10 credit hours selected from among several disciplines related to divorce mediation.

**Core:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800:601 Divorce Mediation</td>
<td>3</td>
</tr>
<tr>
<td>1800:602 Divorce Mediation Practicum</td>
<td>2</td>
</tr>
</tbody>
</table>

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
  - 7400:607 Family Dynamics 3

**Electives:**

- Students who have already completed coursework in Law, Accounting or Family may select from courses listed below:
  - 5600:647 Career Counseling 3
  - 5600:669 Systems Theory in Family Therapy 3
  - 7400:540 Family Crisis 3
  - 7400:590 W: Family and Divorce 2
  - 7400:602 Family in Life-Span Perspective 3
  - 9200:684 Alternate Dispute Resolution 3

**E-BUSINESS**  
(650108GC)

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.

Persons wanting to enroll in a CBA graduate certificate program must already be accepted into a graduate or professional degree program or already possess a graduate or professional degree.
Program of Study
Civil Engineering students may earn a Geotechnical Engineering Certificate by completing a total of 15 credit hours.
Civil Engineering students may earn an Environmental Engineering Certificate by completing five of the following courses:
- 4300:524 Advanced Environmental Protection
- 4300:526 Environmental Engineering Design
- 4300:527 Water Quality Modeling and Management
- 4300:624 Biological Wastewater Treatment Processes
- 4300:631 Soil Remediation

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):
- 3370:674 Advanced Groundwater Hydrology
- 3400:571 American Environmental History
- 3470:601 Applied Statistics I
- 3850:686 Population

Electives (minimum of 14 credits):
- 3100:520 Tropical Field Biology
- 3100:521 Wetland Ecology
- 3100:522 Food Plants
- 3200:563 Pollution Control
- 3400:570 Geochemistry
- 3400:574 Groundwater Hydrology
- 3400:578 Seminar in Environmental Studies
- 3700:512 Global Environmental Politics
- 4200:563 Sanitary Engineering

FAMILY NURSE PRACTITIONER
CERTIFICATE FOR CERTIFIED PNP
(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 3
- 8200:602 Advanced Adult/Gerontological Assessment/FNP 2
- 8200:612 Advanced Clinical Pharmacology 3

**Required Courses:**
- 8200:620 Adult/Gerontological Health Nursing NP I 2
- 8200:622 Adult/Gerontological Health Nursing NP III 2
- 8200:625 Primary Care of the OB Patient for the Family Nurse Practitioner 1
- 8200:691 Clinical Management I 3
- 8200:692 Clinical Management II 3
- 8200:694 Clinical Management III 3
- 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 3
- 3850:547 Sociology of Sex and Gender 3

**Electives:**
- 3700:502 Politics and the Media 3
- 3700:622 Seminar in Alternatives to Violence at Home and Abroad 3
- 3850:646 Social Inequalities 3
- 3850:651 Social Structures and Personality 3
- 3850:541 Sociology of Law 3
- 3850:555 Family Violence 3
- 3850:753 ST: Gender and Crime 3
- 3230:516 Anthropology of Sex and Gender 3
- 3230:563 Social Anthropology 3
- 3300:589 Seminar in English: Subversive Women 3
- 3300:589 Seminar in English: British Women Writers 3
- 3400:593 Special Studies: Women, Film, and History 3
- 3400:669 Reading Seminar in American History Since 1877 (US Women's History) 3
- 3400:672 Seminar in International Politics 3

**GRADUATE CERTIFICATE IN CROSS-CULTURAL NEGOTIATION (370013GC; South and East Asia Track) (370014GC: Middle Eastern Track)**

**South and East Asian Track**

**Conflict Core (6 credits):**
- 3700:622 Alternatives to Violence at Home and Abroad 3
- 6600:575 Business Negotiations 3

**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 3
- 3250:561 Principles of International Economics 3
- 3400:516 Modern India 3
- 3400:580 Women in Revolutionary China 3
- 3400:610 Graduate Reading Seminar:Comparative Studies: World Civilization 3
- 3700:610 Seminar in International Politics 3
- 3700:620 Seminar in Comparative Studies: World Civilization 3
- 3850:555 Family Violence 3
- 3850:562 Cultural Identity and the Family 3
- 3850:570 Critical Interventions in Globalization 3

**Middle Eastern Track**

**Conflict Core (6 credits):**
- 3700:622 Alternatives to Violence at Home and Abroad 3
- 6600:575 Business Negotiations 3

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

**Electives (9 credits):**
- 3250:560 Economics of Developing Countries 3
- 3250:561 Principles of International Economics 3
- 3400:593 Special Studies in History: Ottoman State and Society 1300-1922 3
- 3400:594 Special Studies in History: Middle Eastern 3
- 3400:610 Graduate Reading Seminar:Comparative Studies: World Civilization 3
- 3400:672 Seminar in International Politics 3
- 3500:684* Alternative Dispute Resolution 3
- 3700:695 Internship (Student Conference on Cross-Cultural Negotiation or related project involving language immersion with approval of Director) 3-6

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

Students must select their electives from only one of the above two tracks and electives must include courses taken from more than two departments. Students are encouraged to speak with the Director, who can approve substitution courses for these elective credits from among special topics classes or other classes that the student persuasively demonstrates to be consistent with the program objectives. Please note: There are no substitutions for the Conflict Core classes.

**GRADUATE CERTIFICATE IN GEOGRAPHIC INFORMATION SCIENCES (335008GC)**

**Program**

The geographic information sciences (GISc) integrate concepts, methods, and tools for collecting, analyzing, and visualizing spatial data, including physical, environmental, social, and economic information. An education in this rapidly growing professional and scientific field leads to careers in the public and private sectors as GI 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.

**Requirements**

**Geotechniques Requirements (9 credits):**
- 3350:505 Geographic Information Systems 3
- 3350:540 Cartography 3
- 3350:547 Remote Sensing 3

**Geotechniques Electives (9 credits):**
- 3350:507 Advanced Geographic Information Systems 3
- 3350:541 Global Positioning Systems (GPS) 3
- 3350:542 Cartographic Theory and Design 3
- 3350:543 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
- 3350:551 Research Methods in Geography and Planning 3
- 3350:583 Spatial Analysis 3
- 3350:596 Field Research Methods 3
- 3350:598 Geographic Information Sciences 3
- 3350:599 Geomatics and Remote Sensing 3
- 3350:601 Advanced Geographic Information Systems 3

**Graduate Certificate in Geographic Information Sciences**

Note: The Graduate Certificate in Geographic Information Sciences is now being administered by the Department of Geology and Environmental Science.

**Program**

The geographic information sciences (GISc) integrate concepts, methods, and tools for collecting, analyzing, and visualizing spatial data, including physical, environmental, social, and economic information. An education in this rapidly growing professional and scientific field leads to careers in the public and private sectors as GI 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.

**Requirements**

**Geotechniques Requirements (9 credits):**
- 3350:505 Geographic Information Systems 3
- 3350:540 Cartography 3
- 3350:547 Remote Sensing 3

**Geotechniques Electives (9 credits):**
- 3350:507 Advanced Geographic Information Systems 3
- 3350:541 Global Positioning Systems (GPS) 3
- 3350:542 Cartographic Theory and Design 3
- 3350:543 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
- 3350:551 Research Methods in Geography and Planning 3
- 3350:583 Spatial Analysis 3
- 3350:596 Field Research Methods 3

**Graduate Certificate in Geographic Information Sciences**

Note: The Graduate Certificate in Geographic Information Sciences is now being administered by the Department of Geology and Environmental Science.

**Program**

The geographic information sciences (GISc) integrate concepts, methods, and tools for collecting, analyzing, and visualizing spatial data, including physical, environmental, social, and economic information. An education in this rapidly growing professional and scientific field leads to careers in the public and private sectors as GI 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.

**Requirements**

**Geotechniques Requirements (9 credits):**
- 3350:505 Geographic Information Systems 3
- 3350:540 Cartography 3
- 3350:547 Remote Sensing 3

**Geotechniques Electives (9 credits):**
- 3350:507 Advanced Geographic Information Systems 3
- 3350:541 Global Positioning Systems (GPS) 3
- 3350:542 Cartographic Theory and Design 3
- 3350:543 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
- 3350:551 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:
- 4300:612 Advanced Soil Mechanics 3
- 4300:614 Foundation Engineering I 3
- 4300:615 Foundation Engineering II 3
- 4300:717 Soil Dynamics 3

Four of the following workshop courses may be taken and substituted for two (2) of the courses above:
- Load and Resistance Factor Design of Foundations and Geotechnical Features 1.5
- Ground Improvement Methods 1.5
- Mechanically Stabilized Earth Walls and Reinforced Soil 1.5
- Slopes 1.5
- Deep Foundations 1.5

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

GERONTOLOGY
(300006GC)
Harvey L. Sterns, Ph.D., Director

Requirements
This certificate program is a special course of study in gerontology that compliments graduate degree programs in various departments and colleges throughout the University. There is a combined graduate certificate program with Kent State University. Combined, the two universities offer a diverse range of graduate courses with aging-related content and joint faculty that are nationally and internationally recognized scholars in gerontology. The graduate certificate is to be received with either a master’s or doctoral degree. Individuals who already hold a graduate degree may also pursue the certificate. The program represents a concentration involving current knowledge and research in gerontology. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that are becoming specialized in research and service to adults and older adults. This course of study coordinates multidisciplinary training of personnel in adult development and aging and helps to meet the critical shortage of trained individuals in the field of gerontology.

The graduate curriculum committee of the Institute for Life-Span Development and Gerontology will oversee this certificate program and certify, through the director of the Institute, that all requirements of the certificate have been completed.

B.S./M.D. students may complete Practicum/Internship and electives from courses available from the Institute or the Office of Geriatric Medicine and Gerontology, Northeast Ohio Medical University (NEOMED).

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:
- 3006:680 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
- 3006:695 Practicum in Life-Span Development and Gerontology 3

Electives**
- 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
- 3850:679 Social Gerontology 3

**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 health-care delivery.

Persons wanting to enroll in a CBA graduate certificate program must already be accepted into a graduate or professional degree program or already possess a graduate or professional degree. 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
- 6500:683 Health Services Systems Management 3

Elective Courses (Choose six credits from the following):
- 6500:585 Special Topics in Health Services Administration 1-3
- 6500:686 Health Services Research Project 3
- 6500:688 Independent Study in Health Services Administration 1-3
- 3250:536 Health Economics 3
- 3850:615 Epidemiologic Methods in Health Research 3
- 3850:656 Sociology of Healthcare 3
- 4800:630 Biomedical Computing 3
- 8200:632 Fiscal Management in Nursing Administration 3
- 6500:602 Computer Techniques for Managers 3
- 6500:641 Business Database Systems 3
- 6500:650 Human Resource Systems for Managers 3
- 6500:663 Data Analysis for Managers 3
- 6500:675 Global Supply Chain Management 3

or 6500:6xx Any course with the approval of the Director 3

HIGHER EDUCATION
(590900GC)
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.
Systems Theory

Theoretical Frameworks:
- Students must have completed at least 9 credits of coursework in theoretical frameworks from their discipline or related areas follows:
- Systems Theory
- General Systems Theory
- Theories and Philosophy of Counseling
- Marriage and Family Therapy: Theory and Techniques

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

HOME-BASED INTERVENTION THERAPY (H40200GC)

Pamela A. Schulze, 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 at-risk children and their families. This course of study coordinates interdisciplinary training of personnel in home-based intervention and helps to meet the need for trained professionals in home-based intervention.

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

Admission
To participate in the program at the graduate level, the student should:
- Be formally admitted to The University of Akron Graduate School.
- Make written application to the program countersigned by student’s major academic advisor (if applicable).
- Have an interview with the Director of the Certificate Programs in Home-Based Intervention.
- Receive written notification for admission from the Director of the Certificate Programs in Home-Based Intervention.
- Consult with the Director of the Certificate Programs in Home-Based Intervention to formulate a program of study.

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

Students will complete a minimum of 18 hours of graduate credits in core and elective coursework. In order to earn the interdisciplinary certificate in Home-Based Intervention, the student must complete the following requirements within six years after beginning the program.

Requirements

Core Courses:
- Home-Based Intervention Theory 3
- Home-Based Intervention Techniques and Practice 3
- Home-Based Intervention Internship 3-5

Eligibility Courses:

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

Total hours required: 18

Elective Courses (9 credits):
- Select one course from three different disciplines. (Must be outside student’s major degree area.)

Specific Skill Areas:
- Psychology
- Sociology
- Multicultural Education (Curricular and Instructional Studies)
- Counseling
- Special Education
- Family and Consumer Sciences
- Counseling Problems Related to Life-Threatening Illness and Death
- Issues in Sexuality for Counselors
- Family Dynamics and Communication in the Educational Process
- Collaboration and Consultation Skills for Special Educators
- Characteristics of Culturally Diverse Populations
- American Families in Poverty
- Middle Childhood and Adolescence
- Family Financial Management
- Family Crisis
- Human Sexuality
- Culture, Ethnicity, and the Family (online)
- Workshop in Family and Consumer Sciences: Family and Divorce
- Parent Education (online)

Social Work
- Minority Issues in Social Work Practice
- Social Work and Child Welfare
- Social Work and Mental Health
- Social Work in Juvenile Justice

HUMAN RESOURCE MANAGEMENT (65000GC)

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.

Persons wanting to enroll in a CBA graduate certificate program must already be accepted into a graduate or professional degree program or already possess a graduate or professional degree.

Requirements (complete all 15 credits)
- Management and Organizational Behavior
- And Pick Four Out Of:
- Human Resource Systems for Managers
- Management of Organizational Transformation
- Managing a Global Workforce
- Staffing and Employment Regulation
- Management of Organizational Conflict

*Students who waive 6500:600 will be required to substitute either 6500:651 Management of Organizational Transformation or 6500:654 Management of Organizational Conflict per approval of Department of Management Chair.
INFORMATION SYSTEM PROJECT MANAGEMENT (650206GC)

Program
Information system project portfolios consist of a combination of off-shored and onshore outsourcing as well as in-house development. The successful collaboration between the various stakeholders in global teams is now a necessity. Project management has 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 (RAD), and implementation.

Required Courses:
6500:643 Systems Analysis and Design
6500:645 Software Development and Quality Assurance
6500:646 Enterprise Systems Implementation
6500:678 Project Management
Choose one of the following:
6500:644 Knowledge Management and Business Intelligence
6500:640 Information Systems and IT Governance
6500:641 Business Database Systems
6500:651 Management of Organizational Technology

LITERACY 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 course work 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

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), two 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

*Literature Core courses:...}

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 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.

Persons wanting to enroll in a CBA graduate certificate program must already be accepted into a graduate or professional degree program or already possess a graduate or professional degree.

Required Courses:
6500:665 Management of Technology or
6500:669 Polymer Management Decisions
6400:600 Marketing Concepts
6200:601 Financial Accounting

Recommended Electives:
Select six credits from the following for which the proper prerequisites have been met:
6200:610 Process Analysis and Cost Management
6400:602 Managerial Finance
6500:600 Management and Organizational Behavior
6500:602 Computer Techniques for Management
6500:608 Entrepreneurship
6500:650 Human Resource Systems for Managers
6500:654 Management of Organizational Conflict
6500:656 Management of Global Supply Chain and Operations
6600:625 Brand Management

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 will have to satisfy the language requirement by completing two years of a Middle Eastern language offered by The University of Akron or any other accredited institution. Students may also fulfill the language requirement by demonstrating competency in the equivalent of a fourth-semester level of his/her chosen language at the FS-1 level (U.S. Department of State) or equivalent level. Currently The University of Akron offers the following:

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

Elective Courses:

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

3200:501 Egyptology I** 3
3200:572 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

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

**Recent 500-level Selected Topics in the Department of Classical Studies, Anthropology and Archaeology have included “Cultures of the Arab World.”
Courses with comparative content are encouraged. Any course that has significant Middle-Eastern content (and for which the student has presented substantial written work on a Middle Eastern topic) may count toward the certificate program with the Director's approval. Students should consult with the Director for help planning an appropriate course of study.

**MOTION AND CONTROL SPECIALIZATION**  
(460006GC)

All manufacturing processes involve motion and control which may range from simple use of pneumatic cylinders in robotics to coordinated motion and sequence control in assembly lines. The technology in motion and control grows and changes at a pace that makes systems of over five years old almost obsolete. The primary purpose of the Motion and Control Specialization certificate program is to provide the graduating engineers with a focused expertise in motion and control and to furnish the necessary tools in order to enable them to follow the changes in technology after graduation. In addition, the program will also serve the practicing engineers and life-long learners to come back to school and refresh their skills using the certificate program.

Persons interested in this program should contact the Department of Mechanical Engineering.

**Admission:**

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

**Requirements:**

- Students should successfully complete all three courses listed below.
  - 4600:442/542 Industrial Automatic Control 3
  - 4600:444/544 Robot, Design, Control and Application 3
  - 4600:670 Integrated Flexible Manufacturing Systems * 3

  *(Undergraduate students must obtain permission to take this course.)*

**NEW MEDIA TECHNOLOGIES**  
(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.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>5150:590</td>
<td>Workshop: Instructional Technology*</td>
<td>3</td>
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<tr>
<td>5150:631</td>
<td>Instructional Design</td>
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</tr>
<tr>
<td>5150:632</td>
<td>Web-Based Learning Systems</td>
<td>3</td>
</tr>
<tr>
<td>5150:633</td>
<td>Hypermedia/Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>5150:634</td>
<td>Visual Literacy</td>
<td>3</td>
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<tr>
<td>5150:635</td>
<td>Emerging Technologies</td>
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<tr>
<td>5150:636</td>
<td>Topical Seminar: Educational Technology</td>
<td>3</td>
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<tr>
<td>7500:590</td>
<td>Workshops in Music Technology*</td>
<td>3</td>
</tr>
<tr>
<td>7600:516</td>
<td>New Media Writing</td>
<td>3</td>
</tr>
<tr>
<td>7600:517</td>
<td>New Media Production</td>
<td>3</td>
</tr>
<tr>
<td>7600:568</td>
<td>Advanced Audio and Video Editing</td>
<td>3</td>
</tr>
<tr>
<td>7600:590</td>
<td>Workshops in Communication*</td>
<td>3</td>
</tr>
</tbody>
</table>

*(Workshops may be repeated for a total of 6 credit hours.)*

**NURSE ANESTHESIA**  
(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 Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:637</td>
<td>Residency I (Pediatics and Obstetrics)</td>
<td>4</td>
</tr>
<tr>
<td>8200:646</td>
<td>Residency II (Cardiac, Thoracic, Cardiovascular, and Neurology)</td>
<td>4</td>
</tr>
<tr>
<td>8200:648</td>
<td>Residency III (Hepatic, Renal, Endocrine, Head &amp; Neck, Trauma , and Burns/Pain Management)</td>
<td>4</td>
</tr>
<tr>
<td>8200:647</td>
<td>Professional Role Seminar</td>
<td>2</td>
</tr>
<tr>
<td>8200:649</td>
<td>Residency IV (Senior Seminar)</td>
<td>4</td>
</tr>
</tbody>
</table>

**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 Number</th>
<th>Course Title</th>
<th>Credit Hours</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 Number</th>
<th>Course Title</th>
<th>Credit Hours</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
  - 7400:501 American Families in Poverty (online) | 3 |
  - 7400:504 Middle Childhood and Adolescence | 3 |
7400:540 Family Crisis 3
7400:546 Culture, Ethnicity and the Family (online) 3
7400:602 Family in Life-Span Perspective 3
7400:610 Child Development Theories 3
7400:665 Development in Infancy and Early Childhood 3
• Social Work
7750:555 The Black Family 3
7750:685 Social Work Practice: Family and Children 3
7750:686 Social Welfare Policy and Services: Family and Children 3
• Nursing
8200:651 Child and Adolescent Health Nursing I 5
• Psychology
3750:530 Psychological Disorders of Children 4
3750:726 Child Psychology 4
3750:737 Psychology of Learning Disabilities 4
• Sociology
3850:512 Socialization Child to Adult 3
3850:671 Family Dynamics 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
5600:665 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

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
8200:668 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
3980:625 Grantsmanship 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 Grantsmanship (required) 3
3980:660 Strategic Management in Public and Non-profit Sectors (required) 3
3980:662 Fund Raising and Resource Management (required) 3
3980:680 Strategic Management in Public and Non-profit Sectors (required) 3
3980:680 Special Topics 3

Local and Regional Development
3980:602 History of Urban Development (required) 3
3980:612 National Urban Policy 3
3980:619 Community Organizing 3
3980:641 Urban Economic Growth and Development (required) 3
3980:650 Comparative Urban Systems 3
3980:661 Public Project Design and Management (required) 3
3980:681 Special Topics 3-1

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Policy Analysis
3980:600 Basic Quantitative Research (required) 3
3980:601 Advanced Quantitative Research (required) 3
3980:640 Fiscal Analysis 3
3980:643 Introduction to Public Policy 3
3980:673 Computer Applications in Public Organizations 3
3980:674 Analytical Techniques for Public Administration (required) 3
3980:680 Special Topics 3

Program Evaluation
3980:600 Basic Quantitative Research (required) 3
3980:601 Advanced Quantitative Research (required) 3
3980:640 Fiscal Analysis 3
3980:671 Program Evaluation in Urban Studies (required) 3
3980:673 Computer Applications in Public Organizations 3
3980:674 Analytical Techniques for Public Administration 3
3980:680 Special Topics 3

Urban Affairs
3980:602 History of Urban Development (required) 3
3980:612 National Urban Policy (required) 3
3980:618 Citizen Participation 3
3980:619 Community Organizing 3
3980:621 Urban Society and Service Systems 3
3980:650 Comparative Urban Systems 3
3980:680 Special Topics 3

GRADUATE CERTIFICATE IN RACIAL CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT (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:
3700:502 Politics and the Media 3
3700:562 Supreme Court and Civil Liberties 3
3700:530 Management of Probation and Parole 3
3700:622 Seminar in Alternatives to Violence at Home and Abroad 3
3850:646 Social Inequalities 3
3850:510 Social Structures and Personality 3
3850:530 Juvenile Delinquency 3
3850:541 Sociology of Law 3
3230:510 Evolution and Human Behavior 3
3230:563 Social Anthropology 3
3400:538 Nazi Germany 3
3400:554 The Civil War and Reconstruction, 1850-1877 4
Internship 3 credits from Sociology, Political Science, Anthropology, or History

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:
4300:551 Computer Methods of Structural Analysis 3
4300:554 Advanced Mechanics of Materials 3
4300:605 Stability 3
4300:684 Advanced Reinforced Concrete Design 3
4300:685 Advanced Steel Design 3
Total 15

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.

Persons wanting to enroll in a CBA graduate certificate program must already be accepted into a graduate or professional degree program or already possess a graduate or professional degree.

Requirements (12 credits):
6500:576 Supply Chain Sourcing 3
6500:656 Management of Global Supply Chain 3
6500:675 Global Supply Chain Management 3
6500:680 Supply Chain Logistics Management 3

Requirements (Choose 3 credits from the following):
6500:600 Management and Organization Behavior 3
6500:662 Supply Chain Operations and Analysis 3
6500:670 Management of Supply Chains and Operations 3

TEACHING AND TRAINING TECHNICAL PROFESSIONALS (540100GC)
Qetler Jensrud, Ph.D., Coordinator (e-mail: qetler@uakron.edu)
This certificate program is for educators who desire to teach at the postsecondary level or to train in business and industry. Persons eligible for admission to the certificate program need to be fully admitted to The University of Akron as graduate students. This is a graduate certificate. Individuals who hold undergraduate or graduate degrees may pursue this certificate as a non-degree student. The certificate courses can be applied to a master's degree in the future if they are taken within a specific time limit. All coursework must be completed within six years. All courses are online.

Requirements
Minimum: 18 Credits
5400:500 Postsecondary Learner 3
5400:515 Training in Business and Industry 3
or
5400:600 The Two-Year College 3
5400:520 Postsecondary Instructional Technology 3
5400:530 Systematic Curriculum Design for Postsecondary Instruction 3
5400:535 Systematic Curriculum Design in Postsecondary Education 3
5400:675 Instructional Applications Seminar 3
The Instructional Applications Seminar is the last course taken.

TEACHING ARABIC (550003GC)
Program
The 12 month intensive certificate program with 27 credit hours of graduate-level coursework blends with our current program in foreign language education. These candidates will be able to take classes offered to our current M.S. with licensure program candidates. The standards-based coursework outlined in this proposal will provide candidates the content and pedagogical knowledge necessary to obtain an alternative license through the Ohio Board of Regents, and thereafter teach Arabic.

Required Courses (27 credits):
5100:620 Psychology of Instruction for Teaching and Learning 3
5500:621 Advanced Instructional Techniques: Modern Languages P-8 3
5100:624 Cultural Foundations of Education 3
5500:619 Instructional and Management Practices 3
5500:520 Advanced Instructional Techniques: Modern Language-Secondary 3
5500:694 Field Experience: Classroom Instruction 3
5100:642 Topical Seminar in Measurement and Evaluation 3
5500:575 Instructional Technology Applications 3
5500:555 Literacy for Multi-age Licensure 3

TEACHING CHINESE (550002GC)
Program
The 12 month intensive certificate program with 27 credit hours of graduate-level coursework blends with our current program in foreign language education. These candidates will be able to take classes offered to our current M.S. with licensure program candidates. The standards-based coursework outlined in this proposal will provide candidates the content and pedagogical knowledge necessary to obtain an alternative license through the Ohio Board of Regents, and thereafter teach Chinese.
TEACHING ENGLISH AS A SECOND LANGUAGE†
(330003GC)
Wei Zhang, Ph.D., Director

Requirements
This program is intended for both native and non-native speakers of English who seek training in the teaching of English as a second language (ESL) and wish to obtain an initial qualification to teach ESL/EFL (English as a foreign language) in educational settings other than public schools in Ohio or in countries outside the United States. For Ohio qualification in teaching ESL in the Ohio public school system, see the TESOL Endorsement requirements in this bulletin under the College of Education.

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 (paper-based), 213 (computer-based), or 79 (internet-based) or a valid IELTS score of 6.5 or higher.

The awarding of this certificate is not contingent upon completion of a degree program. A minimum grade point average of 3.0 is required. Graduate students must apply for the certificate program through the Graduate School.

All students who wish to pursue the TESL certificate should meet with the program director to discuss the program and availability of courses.

The certificate requires the completion of a minimum of 18 credit hours of course work, including five core courses and one elective course.

Core Requirements (15 credits)
- 3300:566 Linguistics and Language Arts 3
- 3300:573 Theoretical Foundations and Principles of ESL 3
- 3300:578 Grammatical Structures of English 3
- 5500:543 Techniques of Teaching English as a Second Language 4
- 3300:577 Sociolinguistics or 3
- 3300:586 Learner English 3

Electives (3 credits)**
Choose one of the following courses:
- 3300:570 History of English Language 3
- 3300:572 Syntax 3
- 3300:577 Sociolinguistics 3
- 3300:587 Field Experience: Teaching Language Learners 3
- 3900:505 Spanish Linguistics: Phonology 4
- 5500:541 Teaching Language Literacy to Second Language Learners 4
- 7700:530 Aspects of Normal Language Development 3

Students should have successfully completed 3300:371 or 3300:566 prior to taking 3300:573.

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

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:
- 4300:564 Highway Design 3
- 4300:565 Pavement Engineering 3
- 4300:566 Traffic Engineering 3

and two of the following courses:
- 4300:663 Advanced Transportation Engineering I 3
- 4300:664 Advanced Transportation Engineering II 3
- 4300:665 Traffic Detection and Data Analysis 3

Total 15

WOMEN’S STUDIES
(300110GC)
For information, contact Women’s Studies, located in Olin Hall 247, (330) 972-7481.

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)
- 3001:580 Feminist Theory 3
- 3001:589 Internship in Women’s Studies 1-4
- 3001:590 Workshop: Women’s Studies Lecture Series 3

Electives
Three classes selected from the Women’s Studies Coordinating Council-approved list of graduate level courses.

- 3001:585 Special Topics in Women’s Studies: Women, Poverty and Welfare 3
- 3001:585 Special Topics in Women’s Studies: Women as Survivors 3
- 3001:585 Special Topics in Women’s Studies: Worlds of Women 3
- 3001:589 Internship in Women’s Studies 1-4
- 3001:593 Individual Studies on Women 1-3
- 3230:516 The Anthropology of Sex and Gender 3
- 3300:553 American Women Poets 3
- 3300:589 Seminar in English 2-3
- 3400:500 Gender and Culture in China 3
- 3400:599 Women and Gender in Middle Eastern Societies 3
- 3700:522 Understanding Racial and Gender Conflict 3
- 3850:555 Family Violence 3
- 3850:639 Sociology of Gender 3
- 7600:508 Women, Minorities, and News 3
- 7750:511 Women’s Issues in Social Work Practice 3

or other classes as approved by Women’s Studies Graduate Coordinator for the certificate
### SECTION 5. Graduate Courses

#### Course Numbering Index*

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<th>Description</th>
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<td>3001 Women’s Studies</td>
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<td>1820 Home-Based Intervention Therapy</td>
<td>3006 Institute for Lifespan</td>
<td></td>
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<tr>
<td>3000 Cooperative Education</td>
<td>3006 Development and Gerontology</td>
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#### Buechel College of Arts and Sciences

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<th>Department</th>
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<td>3530 German</td>
</tr>
<tr>
<td>3110 Biology/NEOMED</td>
<td>3550 Italian</td>
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<tr>
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<tr>
<td>3200 Classics</td>
<td>3600 Philosophy</td>
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<td>3230 Anthropology</td>
<td>3650 Physics</td>
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<td>3240 Archaeology</td>
<td>3700 Political Science</td>
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<tr>
<td>3250 Economics</td>
<td>3750 Psychology</td>
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<tr>
<td>3300 English</td>
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<tr>
<td>3350 Geography and Planning</td>
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<td>3370 History</td>
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<td>3450 Mathematics</td>
<td>7400 Family and Consumer Sciences</td>
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<td>3460 Computer Science</td>
<td>7500 Music</td>
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<tr>
<td>3470 Statistics</td>
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<td>3490 Engineering Applied</td>
<td>7600 Communication</td>
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<tr>
<td>Mathematics</td>
<td>7800 Theatre</td>
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<tr>
<td>3500 Modern Languages</td>
<td>7810 Theatre Organizations</td>
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<tr>
<td>3510 Latin</td>
<td>7920 Dance Performance</td>
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#### College of Engineering

<table>
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<tbody>
<tr>
<td>4100 General Engineering</td>
<td>4450 Computer Engineering</td>
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<tr>
<td>4200 Chemical Engineering</td>
<td>4600 Mechanical Engineering</td>
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<tr>
<td>4300 Civil Engineering</td>
<td>4800 Biomedical Engineering</td>
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<tr>
<td>4400 Electrical Engineering</td>
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#### College of Education

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<tbody>
<tr>
<td>5100 Educational Foundations and Leadership</td>
<td>5550 Physical Education</td>
</tr>
<tr>
<td>5150 Instructional Technology</td>
<td>5560 Outdoor Education</td>
</tr>
<tr>
<td>5170 General Administration</td>
<td>5570 Health Education</td>
</tr>
<tr>
<td>5190 Higher Education Administration and Counseling</td>
<td>5600 Educational Guidance</td>
</tr>
<tr>
<td>5400 Teaching and Training</td>
<td>5610 Special Education</td>
</tr>
<tr>
<td>Technical Professionals</td>
<td>5620 School Psychology</td>
</tr>
<tr>
<td>5500 Curricular and Instructional Studies</td>
<td>5800 Special Educational Programs</td>
</tr>
</tbody>
</table>

#### College of Business Administration

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200 Accountancy</td>
<td>6600 Marketing</td>
</tr>
<tr>
<td>6300 Entrepreneurship</td>
<td>6700 Professional</td>
</tr>
<tr>
<td>6400 Finance</td>
<td>6800 International Business</td>
</tr>
<tr>
<td>6500 Management</td>
<td></td>
</tr>
</tbody>
</table>

#### College of Health Professions

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>7700 Speech Language Pathology and Audiology</td>
<td>8200 Nursing</td>
</tr>
<tr>
<td>7750 Social Work</td>
<td>8300 Public Health</td>
</tr>
<tr>
<td>7760 Nutrition and Dietetics</td>
<td></td>
</tr>
</tbody>
</table>

#### College of Polymer Science and Polymer Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>9841 Polymer Engineering</td>
<td>9871 Polymer Science</td>
</tr>
</tbody>
</table>

* Each course at the University has two numbers. One designates the college and department of which it is a part; one specifies the subject matter of the particular course. For instance:

- 3300-507 Middle English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. In the case, 3000 represents the Buechel 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

---

### Interdisciplinary Programs

#### DIVORCE MEDIATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>601 DIVORCE MEDIATION</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

**Prerequisite:** Admission to the graduate certificate program in Divorce Mediation. Overview of divorce mediation process includes guidelines for negotiating separation and divorce agreements, division of personal and real property, support, custody, and future plans.

**602 DIVORCE MEDIATION PRACTICUM**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>2 credits</td>
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</tbody>
</table>

Prerequisite: 601. Practical application of divorce mediation procedures. Review of strategies and ethical considerations.

#### HOME-BASED INTERVENTION THERAPY

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>503 HOME-BASED INTERVENTION THEORY</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>3 credits</td>
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</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>3-5 credits</td>
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</tbody>
</table>

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.

#### COOPERATIVE EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>501 COOPERATIVE EDUCATION</td>
<td>0 credits</td>
</tr>
</tbody>
</table>

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/no credit.

#### WOMEN’S STUDIES

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>580 FEMINIST THEORY</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 credits</td>
<td></td>
</tr>
</tbody>
</table>

May be repeated.) Specialized topics and current issues in Women’s Studies. Covers content and issues not currently addressed in other academic courses. Emphases will be on original source materials, critical analyses and the synthesis of empirical and theoretical aspects.

**589 INTERNSHIP IN WOMEN’S STUDIES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>1-4 credits</td>
<td></td>
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</tbody>
</table>

(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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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<tbody>
<tr>
<td>1-3 credits</td>
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</tbody>
</table>

(May be repeated.) Group experiential study of special issues in Women’s Studies.

**593 INDIVIDUAL STUDIES ON WOMEN**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>1-3 credits</td>
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</tbody>
</table>

(May be repeated.) Directed study of selected topics related to women. Projects are chosen by student in consultation with instructor and approval of Director of Women’s Studies.

#### INSTITUTE FOR LIFE-SPAN DEVELOPMENT & GERONTOLOGY

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>680 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

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 services.

**685 SPECIAL TOPICS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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<tbody>
<tr>
<td>1-3 credits</td>
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</table>

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 synthesis of empirical, theoretical and applied aspects.

**686 RETIREMENT SPECIALIST**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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<tbody>
<tr>
<td>2 credits</td>
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</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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<tbody>
<tr>
<td>1-3 credits</td>
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</tbody>
</table>

(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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Department</th>
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<tbody>
<tr>
<td>3 credits</td>
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</table>

Prerequisite: permission. Supervised experience in research or community agency work.
506 PRINCIPLES OF SYSTEMATICS

The science of identifying, naming, and cataloging the diversity of life. Topics include: nomenclature, taxonomy, techniques of data collection, and methods of phylogenetic reconstruction.

512 ADVANCED ECOLOGY

Advanced study of the ecology of individuals, populations, communities, and the biosphere. Application of ecological concepts to the preservation of biological diversity.

518 FIELD ECOLOGY

Introduction to sampling methods, design of experiments and observations, and computer applications to analyze field data. Laboratory. Field trips required.

521 TROPICAL FIELD BIOLOGY

Ecology of coral reefs, tide pools, mangroves, intertidal zones, terrestrial flora and fauna, and biogeography. Taught at a field station in the tropics.

522 CONSERVATION BIOLOGY

Explores the factors affecting survival of biodiversity and how to develop practical approaches to resolve problems in conservation issues.

523 POPULATION BIOLOGY

Discussion of animal and plant ecology and evolutionary biology from a species and population level perspective. Includes topics in population ecology and population genetics.

526 WETLAND ECOLOGY

Wetland ecology; principles and conservation. Field studies will be conducted at Bathe Nature Preserve. Laboratory. Field trips required; minor transportation costs.

528 BIOLOGY OF BEHAVIOR

Biological basis of behavior: ethological theory; function, causation, evolution and adaptive behavior. May be taken without 529/529.

529 BIOLOGY OF BEHAVIOR LABORATORY

Individualized, directed study to provide the student with firsthand experience in observing, describing and interpreting animal behavior.

530 COMMUNITY/Ecosystem ecology

Study of the ecosystem concept; components, processes, and dynamics of communities and ecosystems; analysis and design of ecosystem experiments. Laboratory.

533 PATHOGENIC BACTERIOLOGY

Study of major groups of bacteria which produce infections in humans. Biochemical properties of microorganisms which engender virulence and nature of host resistance. Laboratory.

537 IMMUNOLOGY

Nature of antigens, antibody response, and antigen-antibody reactions. Site and mechanism of antigen formation, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.

539 ADVANCED IMMUNOLOGY

Immunology is studied from a historical and current perspective. Topics include T cells, B cells, antigen presentation, HIV, and transplantation.

540 MYCOLOGY

Structure, life history, classification of representative fungi with emphasis on the importance of fungi to humans. Laboratory.

543 PHYSIOLOGY

Study of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory.

545 FIELD MARINE PHYCOLOGY

Collection and identification of tropical marine algae on San Salvador Island, The Bahamas. Discussion of characteristics and ecology of major groups of Caribbean algae. Laboratory.

551 GENERAL ENTOMOLOGY

Structure, physiology, life cycles, economic importance characteristics of orders and major families of insects. Laboratory. Parallel lectures.

553 INVERTEBRATE ZOOLOGY

Invertebrate groups, their classification, functional morphology, adaptive radiation and life history. A phylogenetic approach is used. Laboratories parallel lectures.

554 PARASITOLOGY

Principles of parasitism; host parasite interactions; important human and veterinary parasitic diseases; and control measures. Laboratories parallel lectures.

557 Ichthyology

Study of fishes; incorporates aspects of evolution, anatomy, physiology, natural history, and commercial exploitation of fishes. Laboratory incorporates field-based exercises and fish taxonomy.

560 ORTHINOCYTHIOLOGY

Introduction to the biology of birds: classification, anatomy, physiology, behavior, evolution, natural history and field identification. Laboratory. Field trips required; minor transportation costs.

561 HERPETOLOGY

Survey of the diversity, ecology and evolution of amphibians and reptiles. Special emphasis is given to Ohio species. Laboratory.

562 Vertebrate ZOOLOGY

Biology of vertebrates, except birds -- evolution, ecology, behavior, systematics and anatomy. Laboratory. Field trips required.

561,2 HUMAN PHYSIOLOGY

101

Disorders of function of the human body with special emphasis on neurovascular, cardiovascular, respiratory, renal and endocrine physiology. Laboratory.

565 ADVANCED CARDIOVASCULAR PHYSIOLOGY

Study of biological mechanisms involved in heart attack, strokes, fluid balance, hypertension and heart disease. Controversial issues in each area will be examined and current research presented.

566 VERTEBRATE EMBRYOLOGY

Lecture and laboratory 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

An introduction to the comparative morphology of major vertebrates. The laboratory consists of dissections of representative vertebrates.

568 THE PHYSIOLOGY OF REPRODUCTION

Study of the physiological mechanisms of reproduction throughout the animal kingdom with special emphasis upon mammalian endocrinological control. Controversial issues in the field will be examined and current research presented.

569 RESPIRATORY PHYSIOLOGY

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

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

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

Study of mechanisms from molecular to behavioral of how stress influences body systems and function. The latest research and experimental issues are discussed.

573 COMPARATIVE ANIMAL PHYSIOLOGY

Study of respiration, circulation, digestion, metabolism, osmoregulation, and excretion in a variety of invertebrate and vertebrate animals. Adaptation to the environment is emphasized.

574 COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY

Laboratory experiments in animal physiology (respiration, circulation, metabolism, osmoregulation). Presentation of results in scientific format and as oral reports.

580 MOLECULAR BIOLOGY


581 ADVANCED GENETICS

Nature of the gene; genetic codes; hereditary determinants; mutagenesis and genes in population. Lecture and seminar.

582 NEUROBIOLOGY

History of neuroscience; organization, function and development of the central nervous system; electrophysiological properties of nerve cells; learning and memory; molecular basis for neural diseases.

585 CELL PHYSIOLOGY

Explores molecular and biochemical aspects of energy metabolism, inter and intracellular signaling, growth and death of cells. Emphasizes up-to-date scientific literature and techniques.

589 WORKSHOP IN BIOLOGY

1-3 credits (May be repeated). Prerequisite: permission. Group study of special topics in biology. May not be used to meet undergraduate or graduate major requirements in biology. May be used for elective credit only.

597 BIOLOGICAL PROBLEMS

A survey of theory and methods in evolutionary biology including; evolutionary genetics, natural selection, drift, mating systems, trait integration, plasticity, phylogenetics, and paleontology.

597 ADVANCED GROWTH AND DEVELOPMENT

Adapted training for students pursuing a professional/academic career in biology and associated disciplines. Exploration of interactions at the organismal, population, community, and ecosystem levels.

598 EXPERIMENTAL APPROACHES IN FIELD ECOLOGY

Prerequisite: Graduate status. Field oriented course intended to help students learn to formulate conclusions. Laboratory.

599 ADVANCED AQUATIC ECOLOGY

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.

601 BASIC DNA TECHNIQUES

Basic DNA techniques including extraction of DNA, cleavage of DNA and cloning. Laboratory.

603 TOXICS IN INTEGRATIVE BIOLOGY

Reading, critical analysis, presentation, discussion and debate of cutting edge biological research with an emphasis on understanding the integrative approach to biological investigations.

616 GRADUATE EVOLUTIONARY BIOLOGY

A survey of theory and methods in evolutionary biology including; evolutionary genetics, natural selection, drift, mating systems, trait integration, plasticity, phylogenetics, and paleontology.

624 ENVIRONMENTAL PHYSIOLOGY

Prerequisite: Graduate standing. Study of physiological reactions of healthy mammals to natural environments. Includes field trips, and student-designed experiments.

631 ENVIRONMENTAL PHYSIOLOGY

Prerequisites: 591, 592. Study of physiological and metabolic adaptations of mammals to natural environments and extremes of physical environment.

635 ADVANCED EXERCISE PHYSIOLOGY

Through lecture, reading, and critical analysis of current literature, physiological mechanisms of exercise in animals will be explored.

650 HISTOLOGY, CELL BIOLOGY, AND INTRODUCTORY PATHOLOGY

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

Prerequisite: Admission to M.S. program, or 300/561, or consent of instructor. Selected principles of human physiology, pathophysiology, and pharmacology are examined in depth, interrogated, and related to the care of patients in the clinical setting.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>590</td>
<td>WORKSHOP IN CHEMISTRY</td>
<td>3 credits</td>
<td>Br</td>
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<tr>
<td>3 credits</td>
<td></td>
<td></td>
<td>Br</td>
</tr>
<tr>
<td>503</td>
<td>BIOCHEMISTRY LECTURE II</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Overview of metabolism: thermodynamics; carbohydrate, fatty acid, amino acid, and nucleoside anabolism and catabolism; hormonal control of metabolism. Photosynthesis.</td>
</tr>
<tr>
<td>504</td>
<td>ADVANCED INORGANIC CHEMISTRY</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.</td>
</tr>
<tr>
<td>500</td>
<td>WORKSHOP IN CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.</td>
</tr>
<tr>
<td>502</td>
<td>SPECIAL TOPICS: CHEMICAL EDUCATION</td>
<td>1-3 credits</td>
<td>(May be repeated up to 6 credits) Consideration of topics in chemical education.</td>
</tr>
<tr>
<td>603</td>
<td>PREREQUISITE: 501 and 502, graduate status or permission of department. DNA, RNA and protein metabolism. Translation and transcription. Gene function and expression.</td>
<td>3 credits</td>
<td>Br</td>
</tr>
<tr>
<td>610</td>
<td>BASIC QUANTUM CHEMISTRY</td>
<td>3 credits</td>
<td>Prerequisite: Graduate status or permission of department. Quantum mechanics with applications to molecular systems. Includes angular momentum, molecular Hamiltonians, variation and perturbation methods and molecular orbital theories.</td>
</tr>
<tr>
<td>619</td>
<td>TRANSITION-METAL ORGANOMETALLICS</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. The organometallic chemistry of the transition metal elements. Topics covered include synthesis, characterization methods, structure, bonding, reactivity, and application.</td>
</tr>
<tr>
<td>620</td>
<td>MAIN GROUP ORGANOMETALLICS</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. The organometallic chemistry of main group elements. Topics covered include synthesis, characterization methods, structure, bonding, reactivity, and application.</td>
</tr>
<tr>
<td>625</td>
<td>CHEMISTRY SEMINAR</td>
<td>1 credit</td>
<td>Prequisite: Graduate status or permission of department. Lectures on current research topics in chemistry by invited speakers.</td>
</tr>
<tr>
<td>629</td>
<td>PHYSICAL INORGANIC CHEMISTRY</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanism, electronic spectra, molecular orbital theory.</td>
</tr>
<tr>
<td>630</td>
<td>THEORETICAL INORGANIC CHEMISTRY</td>
<td>2 credits</td>
<td>Prequisite: 625, graduate status or permission of department. Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanism, electronic spectra, molecular orbital theory.</td>
</tr>
<tr>
<td>631</td>
<td>METALS IN MEDICINE</td>
<td>3 credits</td>
<td>Prequisite: 572, graduate status or permission of department. This course will cover the syntheses and development of metal-based medicines including the tumor drug cisplatin, technetium 99m based imaging agents, and silver antimicrobials.</td>
</tr>
<tr>
<td>634</td>
<td>THERMODYNAMICS AND STATISTICAL THERMODYNAMICS</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Rigorous treatment of the laws of thermodynamics and their applications to selected chemical systems. Fundamentals of statistical thermodynamics and applications to systems in chemical equilibrium.</td>
</tr>
<tr>
<td>635</td>
<td>CHROMOGENIC KINETICS</td>
<td>3 credits</td>
<td>Prequisite: 635, graduate status or permission of department. Phenomenological kinetics, experimental methods of investigation and analysis of reaction systems. Theoretical treatments of reaction rates.</td>
</tr>
<tr>
<td>640</td>
<td>CHEMICAL SEPARATIONS</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. General theory, instrumentation and application of methods of separation. Emphasis on modern chromatographic techniques and recent advances.</td>
</tr>
<tr>
<td>641</td>
<td>SPECTRAL METHODS</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Theory and application of instrumental measurements. Interpretation of data.</td>
</tr>
<tr>
<td>643</td>
<td>X-RAY CRYSTALLOGRAPHY</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. The theoretical and practical aspects of single crystal x-ray crystallography are discussed. Topics covered include diffraction, spacegroups, structure solution and refinement.</td>
</tr>
<tr>
<td>648</td>
<td>SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Determination of the structures of organic compounds by spectroscopic analysis: ORD/CD, UV-VIS spectroscopy, IR spectroscopy, mass spectrometry, FT-NMR spectroscopy, 2D-NMR.</td>
</tr>
<tr>
<td>650</td>
<td>BACTERIAL POLYMERS</td>
<td>1 credit</td>
<td>Prequisite: 651. Both classes are covered. Synthetic lipidic polymers, synthetic carbohydrate polymers, synthetic polyamines, and synthetic polypeptides.</td>
</tr>
<tr>
<td>651</td>
<td>MECHANISM AND SYNTHETIC CHEMISTRY</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Introduction to the structural and mechanistic aspects of organic reactions: HMO calculations, acentric factors for diastereoselectivity, enantiodifferentiation, and asymmetric synthesis.</td>
</tr>
<tr>
<td>682</td>
<td>MECHANIC AND SYNTHETIC ORGANIC CHEMISTRY</td>
<td>3 credits</td>
<td>Prequisite: Graduate status or permission of department. Consideration of the mechanistic aspects of organic reactions, including the theoretical aspects of organic reactions. Emphasis on modern organic chemistry such as coordination compounds, chemical reactivity of the solid state, representative elements, nonaqueous solvents, organometallic compounds, homogeneously catalyzed reactions.</td>
</tr>
<tr>
<td>683</td>
<td>SPECIAL TOPICS: PHYSICAL CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Prequisite: Graduate status or permission of department. Subject from modern physical chemistry.</td>
</tr>
<tr>
<td>700</td>
<td>BIOLOGY NEOMED</td>
<td>12 credits</td>
<td>Original research by the doctoral student.</td>
</tr>
<tr>
<td>630</td>
<td>HUMAN GROSS ANATOMY I</td>
<td>3 credits</td>
<td>Prequisite: graduate standing and permission. An intensive survey of human macromolecules.</td>
</tr>
<tr>
<td>631</td>
<td>HUMAN GROSS ANATOMY II</td>
<td>3 credits</td>
<td>Prequisite: graduate standing and permission. An intensive survey of human macromolecules.</td>
</tr>
<tr>
<td>695</td>
<td>SPECIAL TOPICS: BIOLOGY/NEOMED</td>
<td>1-6 credits</td>
<td>Prequisite: permission. Special courses offered once only or occasionally in areas where no formal course exists.</td>
</tr>
<tr>
<td>571</td>
<td>INTRODUCTORY BIOLOGY</td>
<td>1 credit</td>
<td>Prequisite: permission. Attendance at all departmental seminars and presentation of seminar based on original research. Required of all thesis option students who shall present their thesis research.</td>
</tr>
<tr>
<td>660</td>
<td>RESEARCH TECHNIQUES IN INTEGRATED BIOLOGY</td>
<td>4 credits</td>
<td>Students will learn standard, common techniques that are applicable across broad areas of research in integrated biology.</td>
</tr>
<tr>
<td>662</td>
<td>COMMUNICATING IN INTEGRATED BIOLOGY</td>
<td>2 credits</td>
<td>Communication of bioscience topics to professionals of a broad audience. Students present topics in their area of expertise to either (non-discipline) students in the course.</td>
</tr>
<tr>
<td>667</td>
<td>PROBLEM SOLVING IN INTEGRATED BIOLOGY</td>
<td>3 credits</td>
<td>Prequisite: 702. Students will learn how to study complex systems and get hands-on experience working in interdisciplinary teams.</td>
</tr>
<tr>
<td>668</td>
<td>PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY</td>
<td>3 credits</td>
<td>Modeling at biological length scales using transmission electron microscopy. Principles of imaging and the laboratory techniques necessary for performing the experiments.</td>
</tr>
<tr>
<td>669</td>
<td>PRINCIPLES OF SCANNING ELECTRON MICROSCOPY</td>
<td>3 credits</td>
<td>An introduction of modern cytological methods using the scanning electron microscope. A portfolio is required to demonstrate proficiency in fixation techniques, use of ultramicrotome, light and electron microscopes and darkroom techniques.</td>
</tr>
<tr>
<td>670</td>
<td>PRINCIPLES OF ELECTRON MICROSCOPY</td>
<td>4 credits</td>
<td>Prequisite: graduate status or permission of department. Theoretical and practical aspects of electron microscopy are covered. Topics covered include image formation, space groups, structure solution and refinement.</td>
</tr>
<tr>
<td>671</td>
<td>SPECIAL TOPICS: PHYSICAL CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Prequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
</tr>
<tr>
<td>672</td>
<td>SPECIAL TOPICS: ORGANIC CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Prequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
</tr>
<tr>
<td>673</td>
<td>SPECIAL TOPICS: INORGANIC CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Prequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
</tr>
<tr>
<td>674</td>
<td>SPECIAL TOPICS: PHYSICAL CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Prequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
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<tr>
<td>675</td>
<td>SPECIAL TOPICS: ORGANIC CHEMISTRY</td>
<td>1-3 credits</td>
<td>(May be repeated) Prequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
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<td>677</td>
<td>SPECIAL TOPICS: PHYSICAL CHEMISTRY</td>
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<td>(May be repeated) Prequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.</td>
</tr>
</tbody>
</table>
ENZYMATIC REACTIONS 3 credits
Prerequisites: 501, 502, graduate status or permission of department. Mechanisms of enzyme catalyzed reactions, general aspects and specific examples for phosphoryl, acyl, glycosyl transfer, eliminations, oxidation/reduction, isomerization and rearrangements. Chemistry of cofactors.

BIODINORGANIC CHEMISTRY 3 credits
Prerequisites: 501 and 503, graduate status or permission of department. Survey of the structure and properties of metal ion complexes with amino acids, nucleotides, metabolites and macromolecules; metal ion metabolism; metals in medicine.

ADVANCED METABOLISM 3 credits
Prerequisites: 501 and 502, graduate status or permission of department. Study of advanced pathways in carbohydrate, lipid and protein metabolism with emphasis placed on metabolic dysfunction.

PHYSICAL ORGANIC CHEMISTRY 3 credits
Prerequisites: 683, 684, graduate status or permission of department. An advanced treatment of the theory and mechanisms of organic chemistry: FMO theory, molecular mechanics, molecular strain, kinetics, thermodynamics, acidity functions, linear free energy relationships.

ADVANCED SYNTHETIC ORGANIC CHEMISTRY 3 credits
Prerequisites: 683, 684, graduate status or permission of department. An advanced treatment of organic functional group manipulations in the context of the total synthesis of natural products.

DOCTORAL DISSERTATION 1-8 credits
Prerequisite: Graduate status or permission of department. Open to qualified student accepted as a candidate for Doctor of Philosophy in Chemistry. Supervised original research undertaken in organic, inorganic, physical, analytical or biochemistry.

ASSYRIOLOGY 3 credits
(May be repeated for credit with another cuneiform language) Prerequisite: permission of instructor. The Akkadian language.

READING AND RESEARCH IN THE ANCIENT NEAR EAST 3 credits
Prerequisite: permission of instructor. Advanced work in various aspects of Ancient Near Eastern Studies (Archaeology, Assyriology, Egyptology, etc.).

EVOLUTION AND HUMAN BEHAVIOR 3 credits
Prerequisite: Permission. Critical examination of the theory of natural selection and its usefulness for understanding the origins and evolution of early hominid and modern human social behavior.

ANTHROPOLOGY 3230:

ANTHROPOLOGY OF SEX AND GENDER 3 credits
Prerequisite: Permission. This course explores cross-cultural variation regarding sex, gender, and sexuality. It examines the ways that cultures create, maintain, and reproduce gender concepts and gender relations.

THE ANTHROPOLOGY OF FOOD 3 credits
Prerequisite: Permission. Utilizes anthropological approaches and theories, this course explores the social relations and cultural beliefs associated with food cross-culturally.

CULTURE AND PERSONALITY 3 credits
Prerequisite: Permission. Examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.

MEDICAL ANTHROPOLOGY 3 credits
Prerequisite: Permission of instructor. Analyzes various aspects of Western and non-Western medical systems from an anthropological perspective. Compares traditional medical systems around the world.

QUALITATIVE METHODS: BASIS OF ANTHROPOLOGICAL RESEARCH 4 credits
Prerequisite: 350 or permission. Provides hands-on experience in qualitative methods, including key informant interviewing, focus groups and other methods. Includes the use of computer-based programs for rapid appraisal strategies.

SOCIAL ANTHROPOLOGY 3 credits
Prerequisite: Permission. Comparative structural analysis of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households and other kinship groupings. Lecture.

SPECIAL TOPICS: ANTHROPOLOGY 3 credits
(May be repeated) Prerequisite: Permission. Designed to meet needs of students with interests in selected topics in anthropology. Offered only 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.

WRORKSHOP IN ANTHROPOLOGY 1-3 credits
(May be repeated) Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.

SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS 3 credits

INDIVIDUAL INVESTIGATION 1-3 credits
Prerequisite: Permission of instructor and chair of department. Intensive reading and/or research in an area selected by the student's chosen field of interest. Regular conferences with instructor. Preparation of a research paper.

ARCHAEOLOGY 3240:

ARCHAEOLOGICAL THEORY 3 credits
Prerequisite: Permission. Advanced seminar covering history of scientific archaeological exploration, major theoretical paradigms, and current trends in archaeology. Required for Certification in Field Archaeology.

ARCHAEOGEOPHYSICAL SURVEY 3 credits
Prerequisite: Permission. Advanced instruction in principles of subsurface geophysical survey techniques in archaeology. Emphasizes magnetic gradiometry and electrical resistivity techniques. Includes both laboratory and field work.

ARCHAEOLOGY OF OHIO 3 credits
Prerequisite: Permission. Provides detailed overview of Ohio’s prehistoric cultures and the archaeological period focusing on cultural evolution and environmental relationships.

ARCHAEOLOGICAL LABORATORY METHODS 3 credits
Prerequisite: Permission. Advanced laboratory processing and study of lithic, ceramic, paleo-botanical, metallic, archaeological materials. Emphasis varies with instructor expertise. Involves instrumental or statistical analysis.

ARCHAEOLOGICAL FIELD SCHOOL 1-6 credits
Prerequisite: Permission. Field-based course teaching basic archaeological techniques: mapping, excavation of prehistoric and historic sites, survey and documentation. Repeatable for up to six credits.

SPECIAL TOPICS IN ARCHAEOLOGY 1-6 credits
Prerequisite: Permission. Designed to meet the needs of students with interests in selected topics in archaeology. Offered only 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.

STATE AND LOCAL PUBLIC FINANCE 3 credits
Prerequisite: Admission 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.

COST-BENEFIT ANALYSIS 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Introduction to tool for public policy evaluation. Includes development of analytical framework and methods of determining benefits and costs over time. Stresses application of techniques.

APPLIED GAME THEORY 3 credits
Prerequisite: Permission 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 such as bargaining, cartels, voting, conflict resolution, and non-competitive pricing.

ECONOMIC FORECASTING 3 credits
Prerequisites: Admission to the master’s program in Economics or permission. Study of methods for building, identifying, fitting, and checking dynamic economic models and the use of these models for forecasting. Emphasis is on the application of available computer software systems.

LABOR MARKET AND SOCIAL POLICY 3 credits
Prerequisite: 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, taxation, labor markets). Emphasis on impacts and implications of domestic, (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.

SPECIAL TOPICS: ECONOMICS 3 credits
Prerequisite: permission. Opportunity to study special topics and current issues in economics.

ECONOMICS OF DEVELOPING COUNTRIES 3 credits
Prerequisite: 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.

PRINCIPLES OF INTERNATIONAL ECONOMICS 3 credits
Prerequisites: Admission to the master’s program in Economics or permission. International trade and foreign exchange, policies of free and controlled trade, international monetary problems.

DEVELOPMENT OF ECONOMIC THOUGHT 3 credits
Prerequisite: Permission. Emphasis on the evolution of ideas of economists contemporary to conditions.

MONETARY AND BANKING POLICY 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Interactions of currency and credit, policies of control by central banks and governments, United States Treasury and Federal Reserve System.

URBAN ECONOMICS: THEORY AND POLICY 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Analysis of urban issues from an economic perspective. Emphasis on urban growth, land-use patterns, transportation, housing, poverty, population, migration, employment, finance, international trade, environment.

WORKSHOP IN ECONOMICS 1-3 credits
Prerequisite: (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.

FOUNATIONS OF ECONOMIC ANALYSIS 3 credits
Prerequisite: graduate standing. Determination of national income, employment and price levels. Aggregate economic and asset holding. Determination of government spending, income distribution, and fiscal policy. Analysis of determinants and implications of national income, employment, and price levels. May be repeated once for credit.

MACROECONOMIC ANALYSIS I 3 credits
Prerequisite: Permission to the master’s program in Economics or permission of the department. Construction of static macroeconomic models. Analysis predominantly in terms of comparative statics with only relatively brief mention of dynamic models.

MACROECONOMIC ANALYSIS II 3 credits
Prerequisite: Permission to the master’s program in Economics or permission of the department. Analysis of aggregate output, inflation, unemployment, and the trade-off between them. Analysis of the short run and long run relationships among aggregate demand, supply, and shocks. May be repeated once for credit.

FRAMEWORK OF ECONOMIC ANALYSIS 3 credits
Prerequisite: graduate standing. Development of theoretical and analytical framework for decision making. Discussion of applications of the framework to situations concerning demand, supply, production, price, employment and wage.

MICROECONOMICS I 3 credits
Prerequisite: Admission to the master’s program in economics or permission of the department. Emphasis on theory of demand and supply of the firm. Determination of market prices. Optimization models, establishment of criteria for productive, allocative and distributive efficiency.

MICROECONOMICS OF THE PUBLIC SECTOR 3 credits
Prerequisite: 611 or permission. Examination of market structure, firm conduct, and changes in prices. Emphasis is on the application of available computer software systems.

ECONOMICS OF SPORTS 3 credits
Prerequisite: permission of instructor. Sports franchises as profit maximizing firms; costs and benefits of a franchise to a city; labor markets in professional sports; the economics of college sports.

FINANCE 3 credits
Prerequisite: admission to the master’s program in Economics or permission. Interactions of currency and credit, policies of control by central banks and governments, United States Treasury and Federal Reserve System.

FINANCE 3 credits
Prerequisite: Admission to the master’s program in Economics or permission. Analysis of urban issues from an economic perspective. Emphasis on urban growth, land-use patterns, transportation, housing, income distribution, and fiscal policy.
### THE ECONOMICS OF REGULATION
- Prerequisite: 615 or permission of instructor. Examines rationale, methods and success of government regulation.

### ANGLO SAXON
- 3 credits

### APPLICATIONS OF LINEAR MODELS IN ECONOMIC ANALYSIS
- 3 credits

### STATISTICS FOR ECONOMETERS
- 3 credits

### ECONOMETRICS
- 3 credits

### SEMINAR IN RESEARCH METHODS
- 3 credits

### THEORY OF WAGES AND EMPLOYMENT
- 3 credits

### SEMINAR ON REGIONAL ECONOMIC ANALYSIS AND DEVELOPMENT
- 3 credits

### INTERNATIONAL MONETARY ECONOMICS
- 3 credits

### INTERNATIONAL TRADE
- 3 credits

### MONETARY ECONOMICS
- 3 credits

### GRADUATE INTERNSHIP IN ECONOMICS
- 3 credits

### READING IN ADVANCED ECONOMICS
- 1-4 credits each

### MASTER’S THESIS
- 1-4 credits each

### 503 DEVELOPMENT OF THE ARTHURIAN LEGEND
- Study of Conrad, Joyce, D.H. Lawrence, and Virginia Woolf with attention to their innovations in narrative style, and their psychological realism and symbolism.

### 536 BRITISH FICTION: 1900-1925
- Study of British novelists since 1925, excluding Lawrence, Joyce, and Woolf. Attention to the development of British short story from 1925 to present.

### 548 AMERICAN ROMANTIC FICTION
- Examination of early American fiction, tracing its genesis, romantic period and germinal moves toward realism. Writers discussed include Cooper, Poe, Hawthorne and Melville.

### 549 AMERICAN FICTION: REALISM AND NATURALISM
- Examination of American writers of realistic and naturalistic fiction (e.g. Howells, James, Crane, Dreiser), tracing developments in American fiction against background of cultural and technological change.

### 550 MODERN AMERICAN FICTION
- 3 credits

### 571 THE ECONOMICS OF REGULATION
- 3 credits

### 573 THEORETICAL FOUNDATIONS AND PRINCIPLES OF ESL
- 3 credits

### 599 MASTER’S THESIS
- 1-4 credits each

### 104 The University of Akron 2012-2013
3 credits
609 ARCHAEOGEOGRAPHICAL SURVEY
Prerequisite: 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.

3 credits
515 ENVIRONMENTAL PLANNING
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.

3 credits
520 URBAN GEOGRAPHY
Spatial structure of urban systems; interaction between cities; internal structure of cities. Perspectives on urban change, contemporary urban geographic problems; urban and regional planning issues.

3 credits
522 TRANSPORTATION SYSTEMS PLANNING
Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.

3 credits
524 MILITARY GEOGRAPHY
Study of physical and human geography on military operations and military history. Role played by geography in international conflicts.

3 credits
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.

3 credits
533 PRACTICAL APPROACHES TO PLANNING
Role of geographic investigation in city; regional and resource planning.

5 credits
537 PLANNING ANALYSIS AND PROJECTION METHODS
Introduction to the primary analytic techniques for small-area demographic and economic planning projects.

3 credits
538 LAND USE PLANNING METHODS
Application of GIS and other computer-based tools to the preparation, implementation, and evaluation of comprehensive land-use plans.

3 credits
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.

3 credits
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.

1 credit
541 GLOBAL POSITIONING SYSTEMS (GPS)
Prerequisite: Fundamentals of Global Positioning Systems (GPS), with emphasis on geographic and planning activities. Includes hands-on exercises.

3 credits
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 means of presenting quantitative and qualitative data. Laboratory.

3 credits
543 URBAN APPLICATIONS IN GIS
Prerequisites: 505 or permission. Applications of GIS in urban, regional, and environmental planning. Includes hands-on exercises.

3 credits
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 geography and planning. Laboratory.

3 credits
545 GIS DATABASE DESIGN
Prerequisite: 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.

3 credits
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.

3 credits
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.

3 credits
549 ADVANCED REMOTE SENSING
Prerequisite: 547 or permission. Current research in remote sensing. Applications in human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies. Laboratory.

3 credits
550 DEVELOPMENT PLANNING
A study of planning concepts and techniques for developing countries, including growth and development, planning agencies, regional inequities and alternative approaches.

3 credits
556 POLITICAL GEOGRAPHY
Principles and theory in contemporary domestic and international political geographies. Emphasis on the changing local and global patterns of political ecology, security, and diplomacy.

3 credits
581 RESEARCH METHODS IN GEOGRAPHY AND PLANNING
Investigation of library and archive resources. Emphasis on development of professional writing skills.

3 credits
583 SPATIAL ANALYSIS
Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.

3 credits
589 SPECIAL TOPICS IN GEOGRAPHY
May be repeated. Selected topics of interest in geography.

3 credits
590 WORKSHOP IN GEOGRAPHY
May be repeated for a total of six credits) Group studies of special topics in geography.

3 credits
595 UNDERWATER WATER RESOURCE STUDIES
Properties, origins and uses of major salt and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, subbasinization and agriculture. Field trips required.

3 credits
596 FIELD RESEARCH METHODS
Field work enabling student to become competent in collecting, organizing and analysis of data while carrying out field research projects. Field trips required.

3 credits
597 REGIONAL FIELD STUDIES
Off-campus intensive study of geographic features of a region or regions through direct observations and travel using appropriate field study methods. (Repeatable up to six credits)

6 credits
600 INTERNSHIP
May be repeated for a maximum of six credits each) Prerequisite: permission. Investigation and analysis of selected topics in particular fields of geography. Specialization indicated by second portion of title.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>546</td>
<td>EXPLORATION GEOPHYSICS</td>
<td>3 credits</td>
<td>Study of survey methods and applications in subsurface geophysical exploration.</td>
</tr>
<tr>
<td>536</td>
<td>COAL GEOLOGY</td>
<td>3 credits</td>
<td>Study of the physical, chemical, and geologic properties of coal.</td>
</tr>
<tr>
<td>535</td>
<td>PETROLEUM GEOLOGY</td>
<td>3 credits</td>
<td>Study of the physical, chemical, and geologic properties of petroleum.</td>
</tr>
<tr>
<td>511</td>
<td>GLACIAL GEOLOGY</td>
<td>3 credits</td>
<td>Study of the glacial geology and the effects of ice sheets on the Earth's surface.</td>
</tr>
<tr>
<td>698</td>
<td>INDIVIDUAL READING AND RESEARCH</td>
<td>1-3 credits</td>
<td>May be repeated for a total of six credits. Prerequisite: permission of instructor.</td>
</tr>
<tr>
<td>687</td>
<td>HISTORY OF GEOGRAPHIC THOUGHT</td>
<td>3 credits</td>
<td>Study of the history of geographic thought and its impact on human societies.</td>
</tr>
<tr>
<td>631</td>
<td>FACILITIES PLANNING</td>
<td>3 credits</td>
<td>Study of the planning and management of urban and regional facilities.</td>
</tr>
<tr>
<td>630</td>
<td>PLANNING THEORY</td>
<td>3 credits</td>
<td>Introduction to the political, institutional, and ethical foundations of urban planning.</td>
</tr>
<tr>
<td>361</td>
<td>FACILITIES PLANNING RISK SUBSIDIES</td>
<td>3 credits</td>
<td>Study of the planning and management of urban and regional facilities.</td>
</tr>
<tr>
<td>363</td>
<td>COMPARATIVE PLANNING</td>
<td>3 credits</td>
<td>Analysis of planning methods and processes in different contexts.</td>
</tr>
<tr>
<td>507</td>
<td>ARCHAEOGEOPHYSICAL SURVEY</td>
<td>1-6 credits</td>
<td>Lecture series on topics of interest in geogrophy and planning, provided by the instructor.</td>
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<tr>
<td>533</td>
<td>PETROLOGY</td>
<td>3 credits</td>
<td>Study of the properties and behavior of rocks.</td>
</tr>
<tr>
<td>510</td>
<td>REGIONAL GEOLOGY OF NORTH AMERICA</td>
<td>3 credits</td>
<td>Examination of the geology of North America.</td>
</tr>
<tr>
<td>511</td>
<td>GLACIAL GEOLOGY</td>
<td>3 credits</td>
<td>Study of the glacial geology and the effects of ice sheets on the Earth's surface.</td>
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<td>512</td>
<td>COASTAL GEOLOGY</td>
<td>3 credits</td>
<td>Study of the coastal environment and processes.</td>
</tr>
<tr>
<td>525</td>
<td>PRINCIPLES OF SEDIMENTARY BASIN ANALYSIS</td>
<td>3 credits</td>
<td>Study of the principles of sedimentary basin analysis.</td>
</tr>
<tr>
<td>526</td>
<td>OPTICAL MINERALOGY-INTRODUCTORY PETROGRAPHY</td>
<td>3 credits</td>
<td>Introduction to the study of minerals and rocks.</td>
</tr>
<tr>
<td>535</td>
<td>PETROLOGY</td>
<td>3 credits</td>
<td>Study of the properties and behavior of rocks.</td>
</tr>
<tr>
<td>541</td>
<td>FUNDAMENTALS OF GEOPHYSICS</td>
<td>3 credits</td>
<td>Study of the principles of geophysics.</td>
</tr>
<tr>
<td>541</td>
<td>ENVIRONMENTAL MAGNETISM</td>
<td>3 credits</td>
<td>Study of the principles of environmental magnetism.</td>
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<tr>
<td>545</td>
<td>ENVIRONMENTAL AND ENGINEERING GEOPHYSICS</td>
<td>3 credits</td>
<td>Study of the principles of environmental geophysics.</td>
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<tr>
<td>546</td>
<td>EXPLORATION GEOPHYSICS</td>
<td>3 credits</td>
<td>Study of the principles of geophysical exploration.</td>
</tr>
<tr>
<td>550</td>
<td>ADVANCED STRUCTURAL GEOLOGY</td>
<td>3 credits</td>
<td>Study of the principles of structural geology.</td>
</tr>
<tr>
<td>551</td>
<td>FIELD/LAB STUDIES IN ENVIRONMENTAL SCIENCE</td>
<td>3 credits</td>
<td>Prerequisite: permission. A Field/Laboratory course on environmental science.</td>
</tr>
<tr>
<td>552</td>
<td>GEOLOGY AND ENVIRONMENTAL SCIENCE SERVICE LEARNING</td>
<td>1-3 credits</td>
<td>Prerequisite: permission. A Field/Laboratory course on environmental science.</td>
</tr>
<tr>
<td>553</td>
<td>GEOLOGY FIELD CAMP I</td>
<td>3 credits</td>
<td>Prerequisite: permission. A Field/Laboratory course on environmental science.</td>
</tr>
<tr>
<td>554</td>
<td>GEOLOGY FIELD CAMP II</td>
<td>3 credits</td>
<td>Prerequisite: permission. A Field/Laboratory course on environmental science.</td>
</tr>
<tr>
<td>555</td>
<td>PRINCIPLES OF SEDIMENTARY BASIN ANALYSIS</td>
<td>3 credits</td>
<td>Study of the principles of sedimentary basin analysis.</td>
</tr>
<tr>
<td>556</td>
<td>GEOCHRONOLOGY</td>
<td>3 credits</td>
<td>Study of the principles of geochronology.</td>
</tr>
<tr>
<td>557</td>
<td>STABLE ISOTOPE GEOPHYSICS</td>
<td>3 credits</td>
<td>Study of the principles of stable isotope geophysics.</td>
</tr>
<tr>
<td>558</td>
<td>GROUNDWATER HYDROLOGY</td>
<td>3 credits</td>
<td>Study of the principles of groundwater hydrology.</td>
</tr>
<tr>
<td>559</td>
<td>INTEGRATION IN ENVIRONMENTAL SCENIENCES</td>
<td>2 credits</td>
<td>Study of the principles of environmental sciences.</td>
</tr>
<tr>
<td>560</td>
<td>INTEGRAL READING AND RESEARCH</td>
<td>1-4 credits</td>
<td>May be repeated for a maximum of six credits. Prerequisite: permission of instructor.</td>
</tr>
<tr>
<td>561</td>
<td>NUCLEAR GEOLOGY</td>
<td>4 credits</td>
<td>Study of the principles of nuclear geology.</td>
</tr>
<tr>
<td>562</td>
<td>WORKSHOP IN GEOLOGY AND ENVIRONMENTAL SCIENCE</td>
<td>1-3 credits</td>
<td>May be repeated for a maximum of six credits. Prerequisite: permission of instructor.</td>
</tr>
<tr>
<td>563</td>
<td>GROWTH IN ENVIRONMENTAL SCENIENCES</td>
<td>3 credits</td>
<td>Study of the principles of growth in environmental sciences.</td>
</tr>
<tr>
<td>564</td>
<td>GEOCHEMISTRY</td>
<td>3 credits</td>
<td>Study of the principles of geochronology.</td>
</tr>
<tr>
<td>565</td>
<td>MICROPALAEONTOLOGY</td>
<td>3 credits</td>
<td>Study of the principles of micropalaeontology.</td>
</tr>
<tr>
<td>566</td>
<td>GEOMICROBIOLOGY</td>
<td>3 credits</td>
<td>Study of the principles of geomicrobiology.</td>
</tr>
<tr>
<td>567</td>
<td>ENVIRONMENTAL STUDIES</td>
<td>3 credits</td>
<td>Study of the principles of environmental studies.</td>
</tr>
<tr>
<td>568</td>
<td>AFLUENT IN ENVIRONMENTAL SCENIENCES</td>
<td>2 credits</td>
<td>May be repeated for a maximum of six credits. Prerequisite: permission of instructor.</td>
</tr>
<tr>
<td>569</td>
<td>INDIVIDUAL READING AND RESEARCH</td>
<td>1-4 credits</td>
<td>May be repeated for a maximum of six credits. Prerequisite: permission of instructor.</td>
</tr>
<tr>
<td>570</td>
<td>NUCLEAR GEOLOGY</td>
<td>4 credits</td>
<td>Study of the principles of nuclear geology.</td>
</tr>
<tr>
<td>571</td>
<td>SEISMIC METHODS AND INSTRUMENTS</td>
<td>3 credits</td>
<td>Study of the principles of seismic methods and instruments.</td>
</tr>
<tr>
<td>572</td>
<td>GEOSTATISTICS</td>
<td>2 credits</td>
<td>Study of the principles of geostatistics.</td>
</tr>
<tr>
<td>573</td>
<td>GEOLIC RECORD OF PAST GLOBAL CHANGE</td>
<td>3 credits</td>
<td>Study of the geologic record of past global change.</td>
</tr>
<tr>
<td>574</td>
<td>ADVANCED GROUNDWATER HYDROLOGY</td>
<td>3 credits</td>
<td>Study of the principles of groundwater hydrology.</td>
</tr>
<tr>
<td>575</td>
<td>QUANTITATIVE APPROACHES TO FLEXIBLE ENVIRONMENTAL SCENIENCES</td>
<td>3 credits</td>
<td>Study of the principles of quantitative approaches to flexible environmental sciences.</td>
</tr>
<tr>
<td>576</td>
<td>GLOBAL TECTONICS</td>
<td>3 credits</td>
<td>Study of the principles of global tectonics.</td>
</tr>
<tr>
<td>577</td>
<td>GEOLIC RECORD OF PAST GLOBAL CHANGE</td>
<td>3 credits</td>
<td>Study of the geologic record of past global change.</td>
</tr>
<tr>
<td>578</td>
<td>ADVANCED GROUNDWATER HYDROLOGY</td>
<td>3 credits</td>
<td>Study of the principles of groundwater hydrology.</td>
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<tr>
<td>579</td>
<td>QUANTITATIVE APPROACHES TO FLEXIBLE ENVIRONMENTAL SCENIENCES</td>
<td>3 credits</td>
<td>Study of the principles of quantitative approaches to flexible environmental sciences.</td>
</tr>
<tr>
<td>580</td>
<td>QUANTITATIVE APPROACHES TO FLEXIBLE ENVIRONMENTAL SCENIENCES</td>
<td>3 credits</td>
<td>Study of the principles of quantitative approaches to flexible environmental sciences.</td>
</tr>
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<td>581</td>
<td>QUANTITATIVE APPROACHES TO FLEXIBLE ENVIRONMENTAL SCENIENCES</td>
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<td>Study of the principles of quantitative approaches to flexible environmental sciences.</td>
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<tr>
<td>582</td>
<td>QUANTITATIVE APPROACHES TO FLEXIBLE ENVIRONMENTAL SCENIENCES</td>
<td>3 credits</td>
<td>Study of the principles of quantitative approaches to flexible environmental sciences.</td>
</tr>
<tr>
<td>583</td>
<td>QUANTITATIVE APPROACHES TO FLEXIBLE ENVIRONMENTAL SCENIENCES</td>
<td>3 credits</td>
<td>Study of the principles of quantitative approaches to flexible environmental sciences.</td>
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</tbody>
</table>
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. Special 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 twentieth and twenty-first centuries.

568 AFRICAN-AMERICAN SOCIAL AND INTELLECTUAL HISTORY
3 credits
Examination of black thought and activities reflective of African-American culture, conditions facing American blacks and 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 autobiographical, 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 role in American history.

571 AMERICAN ENVIRONMENTAL HISTORY
3 credits
Utilization, conservation of natural resources from beginnings of American society to present; combination of technological, historical, and environmental history of extensive treatment of public policy, environmental issues.

575 MEXICO
3 credits
History of Mexico from Indian civilizations to present with emphasis on relations with United States; social and political ramifications of the 20th Century Mexican revolution.

576 CENTRAL AMERICA AND THE CARIBBEAN
3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on populist and peasant movements, political reform, social revolution, economic and under-development, and relations with the United States.

582 WAR AND WESTERN CIVILIZATION
3 credits
War and society in Europe, North America and beyond from ancient world to present with special emphasis on period since 1740.

584 HIST 684 SELECTED TOPICS IN GEOLOGY
3 credits
Special emphasis on role of big business and evolution of monetary and fiscal policy.

585 HIST 685 Advanced Individual Readings in Geology
3 credits
Independent and original investigation. Must be successfully completed, report written and defended before a committee.

586 HIST 686 Advanced Individual Reading, Thesis, and Research
3 credits
Independent and original investigation. Must be successfully completed, report written and defended before a committee.

587 HIST 699 Master's Thesis
3 credits
Independent research leading to the completion of a thesis in a particular area of concentration.

588 HIST 698 Graduate Research Problems
3 credits
Independent research leading to the completion of a thesis in a particular area of concentration.

589 HIST 697 Graduate Research Seminar
3 credits
Independent research leading to the completion of a thesis in a particular area of concentration.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>HISTORY OF MATHEMATICS</td>
<td>3 credits</td>
<td>Departmental permission. Origin and development of mathematical ideas. Course does not meet degree requirements in the department.</td>
</tr>
<tr>
<td>510</td>
<td>ADVANCED LINEAR ALGEBRA</td>
<td>3 credits</td>
<td>Departmental permission. Study of vector spaces, linear transformation, canonical and quadratic forms, inner product spaces.</td>
</tr>
<tr>
<td>511</td>
<td>ABSTRACT ALGEBRA I</td>
<td>3 credits</td>
<td>Departmental permission. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory. May not be used to meet master’s degree requirements in mathematics.</td>
</tr>
<tr>
<td>512</td>
<td>ABSTRACT ALGEBRA II</td>
<td>3 credits</td>
<td>Departmental permission. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.</td>
</tr>
<tr>
<td>513</td>
<td>THEORY OF NUMBERS</td>
<td>3 credits</td>
<td>Departmental permission. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.</td>
</tr>
<tr>
<td>515</td>
<td>COMBINATORICS AND GRAPH THEORY</td>
<td>3 credits</td>
<td>Departmental permission. Introduction to basic ideas and techniques of mathematical counting; properties of structures of systems.</td>
</tr>
<tr>
<td>520</td>
<td>MATHEMATICAL TECHNOLOGY AND COMMUNICATION</td>
<td>3 credits</td>
<td>Departmental permission. Graphical, numerical, and algebraic computation with applications using a variety of mathematical hardware and software: symbolic manipulators, dynamic geometry software, graphics, spreadsheet, and web browsers.</td>
</tr>
<tr>
<td>521</td>
<td>2ADVANCED CALCULUS I and II</td>
<td>3 credits each</td>
<td>Sequential. Departmental permission. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals. 3450.521 may not be used to meet master’s degree requirements for mathematics or applied mathematics.</td>
</tr>
<tr>
<td>525</td>
<td>COMPLEX VARIABLES</td>
<td>3 credits</td>
<td>Departmental permission. Complex variables; elementary functions, differentiation and analytic functions; integration and Cauchy’s theorem; power series and Laurent series; residue theorem; applications such as conformal mappings, inversion of integral transforms.</td>
</tr>
<tr>
<td>527</td>
<td>APPLIED NUMERICAL METHODS I</td>
<td>3 credits</td>
<td>Departmental permission. Numerical methods in polynomial interpolation, root finding, numerical integration, and numerical linear algebra. May not be used to meet master’s degree requirements for applied mathematics.</td>
</tr>
<tr>
<td>535</td>
<td>SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS</td>
<td>3 credits</td>
<td>Departmental permission. Analysis, solution of systems of equations, linear, nonlinear, stability, perturbation methods, asymptotic methods, applications from physical, social sciences.</td>
</tr>
<tr>
<td>536</td>
<td>MATHEMATICAL MODELS</td>
<td>3 credits</td>
<td>Departmental permission. Formulation and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.</td>
</tr>
<tr>
<td>538</td>
<td>ADVANCED ENGINEERING MATHEMATICS I</td>
<td>3 credits</td>
<td>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.</td>
</tr>
<tr>
<td>539</td>
<td>ADVANCED ENGINEERING MATHEMATICS II</td>
<td>3 credits</td>
<td>Departmental permission. Special functions, Fourier series and transforms, PDEs.</td>
</tr>
<tr>
<td>541</td>
<td>CONCEPTS IN GEOMETRY</td>
<td>4 credits</td>
<td>Prerequisite: Departmental permission. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.</td>
</tr>
<tr>
<td>545</td>
<td>INTRODUCTION TO TOPOLOGY</td>
<td>3 credits</td>
<td>Prerequisite: Departmental permission. Introduction to topological spaces and topologies, mapping, continuity, homeomorphisms, connected spaces, metric spaces.</td>
</tr>
<tr>
<td>589</td>
<td>TOPICS IN MATHEMATICS</td>
<td>1-4 credits</td>
<td>(May be repeated for a total of 12 credits) Prerequisite: Permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.</td>
</tr>
<tr>
<td>591</td>
<td>WORKSHOP IN MATHEMATICS</td>
<td>1-4 credits</td>
<td>(May be repeated) Group studies of special topics in mathematics and applied mathematics. May not be used to meet undergraduate or graduate credit requirements in mathematics and statistics. May be used for elective credit only.</td>
</tr>
<tr>
<td>592</td>
<td>TOPICS IN ALGEBRA</td>
<td>3 credits</td>
<td>Prerequisite: 552 or departmental permission. Advanced study of selected topics in some of the following areas: semigroups, groups, rings, modules and fields.</td>
</tr>
<tr>
<td>612</td>
<td>REAL ANALYSIS</td>
<td>3 credits</td>
<td>Prerequisite: 522 or departmental permission. In-depth study of real analysis – metric spaces, normed vector spaces, integration theory, Hilbert spaces.</td>
</tr>
<tr>
<td>615</td>
<td>ANALYTIC FUNCTION THEORY</td>
<td>3 credits</td>
<td>Prerequisite: 522 or departmental permission. Complex number system, holomorphic functions, contour, conformality, power series complex integration, residue theory, singularities, analytic continuation, asymptotic expansion.</td>
</tr>
<tr>
<td>627</td>
<td>ADVANCED NUMERICAL ANALYSIS I</td>
<td>3 credits</td>
<td>Prerequisites: 522 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Error propagation; theoretical analysis of numerical methods in interpolation, integration, and ordinary differential equations.</td>
</tr>
<tr>
<td>629</td>
<td>ADVANCED NUMERICAL ANALYSIS II</td>
<td>3 credits</td>
<td>Prerequisites: 522 and knowledge of C++, FORTRAN, or MATLAB or departmental permission. Theoretical analysis of numerical methods in linear algebra.</td>
</tr>
<tr>
<td>631</td>
<td>CALCULUS OF VARIATIONS</td>
<td>3 credits</td>
<td>Prerequisite: Departmental permission. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, the maximality principle, linear time- dependent problems, the connections between linear functional theory and the maximality principle.</td>
</tr>
<tr>
<td>632</td>
<td>ADVANCED PARTIAL DIFFERENTIAL EQUATIONS</td>
<td>3 credits</td>
<td>Prerequisite: 532 or departmental permission. Existence, uniqueness and stability of solutions to general classes of partial differential equations.</td>
</tr>
<tr>
<td>633</td>
<td>METHODS OF APPLIED MATHEMATICS I and II</td>
<td>3 credits each</td>
<td>(May be repeated) Prerequisite: 510 or departmental permission. Methods of applied mathematics concentrating on techniques for analysis of differential and integral equations – applied complex analysis, integral transforms, partial differential equations, and integral equations.</td>
</tr>
<tr>
<td>635</td>
<td>OPTIMIZATION</td>
<td>3 credits</td>
<td>Prerequisite: 522 or departmental permission. Unconstrained and constrained optimization theory and methods in applied problems.</td>
</tr>
<tr>
<td>636</td>
<td>ADVANCED COMBINATORICS AND GRAPH THEORY</td>
<td>3 credits</td>
<td>Prerequisite: Departmental permission. Theory and techniques of combinatorics as applied to network problems and graph theoretic problems.</td>
</tr>
<tr>
<td>638</td>
<td>THEORY AND APPLICATION OF WAVELETS</td>
<td>3 credits</td>
<td>Prerequisite: permission of instructor. Theory of wavelets and applications to signal image analysis. Topics include time-frequency representations, filter bands, discrete and continuous wavelet transforms, wavelet packages, and applications.</td>
</tr>
<tr>
<td>639</td>
<td>ADVANCED TOPICS IN MATHEMATICS</td>
<td>1-3 credits</td>
<td>(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.</td>
</tr>
<tr>
<td>649</td>
<td>SEMINAR IN MATHEMATICS</td>
<td>3 credits</td>
<td>Permission of advisor. Seminar-type discussion on topics in mathematics leading to supervised research project.</td>
</tr>
<tr>
<td>653</td>
<td>PRACTICUM IN MATHEMATICS</td>
<td>1-3 credits</td>
<td>(May be repeated) Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of mathematical sciences. May not be used to meet degree requirements. Credit/noncredit.</td>
</tr>
<tr>
<td>658</td>
<td>INDIVIDUAL READING</td>
<td>1-3 credits</td>
<td>(May be repeated for a total of four credits) Prerequisites: graduate standing and permission. Directed studies in mathematics at graduate level under guidance of selected faculty member.</td>
</tr>
<tr>
<td>659</td>
<td>MASTER’S RESEARCH</td>
<td>1-6 credits</td>
<td>(May be repeated) Prerequisite: permission of advisor. Research in suitable topics in mathematics or applied mathematics culminating in a research paper. May not be used to meet master’s degree requirements for mathematics or applied mathematics.</td>
</tr>
<tr>
<td>666</td>
<td>MASTER’S THESIS</td>
<td>3 credits</td>
<td>Prerequisite: permission of advisor. Properly qualified candidate for master’s degree may obtain three credits for research that culminates in a public oral presentation of the faculty-supervised theses.</td>
</tr>
<tr>
<td>712</td>
<td>FUNCTIONAL ANALYSIS I and II</td>
<td>3 credits each</td>
<td>Prerequisites: 510 and 615 or departmental permission. These courses are sequential. Study of normed linear spaces and transformations between them with an emphasis on the formulation and analysis of differential and integral equations as operator equations on these spaces.</td>
</tr>
<tr>
<td>728</td>
<td>MATRIX ITERATIVE ANALYSIS</td>
<td>3 credits</td>
<td>Prerequisite: Departmental permission. Basic iterative methods, Matrix Properties of Linear Convergence, Linear and Nonlinear equation solver, Semi-iterative and conjugate-gradient methods.</td>
</tr>
<tr>
<td>730</td>
<td>ADVANCED NUMERICAL SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS</td>
<td>3 credits</td>
<td>Prerequisites: 522, 528, 622, or departmental permission. Derivation and implementation of difference and variational-based methods for the solution of partial differential equations and systems of differential equations.</td>
</tr>
<tr>
<td>734</td>
<td>ASYMPTOTIC METHODS AND NONLINEAR ANALYSIS I and II</td>
<td>3 credits each</td>
<td>Prerequisites: 633/634 or equivalent. Survey of asymptotic and perturbation methods as applied to integrations and differential equations. Topics: bifurcation and stability with applications from the physical sciences and engineering.</td>
</tr>
<tr>
<td>735</td>
<td>DYNAMICAL SYSTEMS</td>
<td>3 credits</td>
<td>Prerequisite: 522 or departmental permission. The study of mathematical models of systems which evolve over time. An introduction to maps and applications to ordinary differential equations.</td>
</tr>
</tbody>
</table>
### COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites/Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>FUNDAMENTALS OF DATA STRUCTURES</td>
<td>3</td>
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<tr>
<td>506</td>
<td>INTRODUCTION TO C AND UNIX</td>
<td>3</td>
<td>course description</td>
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<tr>
<td>518</td>
<td>INTRODUCTION TO DISCRETE STRUCTURES</td>
<td>3</td>
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<tr>
<td>521</td>
<td>OBJECT-ORIENTED PROGRAMMING</td>
<td>3</td>
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<tr>
<td>526</td>
<td>OPERATING SYSTEMS</td>
<td>3</td>
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<tr>
<td>528</td>
<td>UNIX SYSTEM PROGRAMMING</td>
<td>3</td>
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<tr>
<td>530</td>
<td>THEORY OF PROGRAMMING LANGUAGES</td>
<td>3</td>
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<tr>
<td>535</td>
<td>ALGORITHMS</td>
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<td>540</td>
<td>COMPILER DESIGN</td>
<td>3</td>
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</tr>
<tr>
<td>545</td>
<td>INTRODUCTION TO BIOCOMPUTING</td>
<td>3</td>
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<tr>
<td>551,2</td>
<td>THEORETICAL STATISTICS I AND II</td>
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<td>601</td>
<td>RESEARCH METHODOLOGY</td>
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<tr>
<td>626</td>
<td>ADVANCED OPERATING SYSTEMS</td>
<td>3</td>
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</tr>
<tr>
<td>630</td>
<td>ADVANCED THEORY OF PROGRAMMING LANGUAGES</td>
<td>3</td>
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<tr>
<td>635</td>
<td>ADVANCED ALGORITHMS</td>
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<td>641</td>
<td>OPTIMIZATION FOR PARALLEL COMPILERS</td>
<td>3</td>
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<td>645</td>
<td>COMPUTATIONAL BIOLOGY</td>
<td>3</td>
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<tr>
<td>653</td>
<td>SOFTWARE SECURITY</td>
<td>3</td>
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<td>659</td>
<td>COMPUTER NETWORKS AND DISTRIBUTED PROCESSING</td>
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<td>660</td>
<td>EXPERT SYSTEMS</td>
<td>3</td>
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<tr>
<td>665</td>
<td>ADVANCED COMPUTER ARCHITECTURE</td>
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<td>670</td>
<td>ADVANCED AUTOMATA AND COMPATIBILITY</td>
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<tr>
<td>671</td>
<td>DATA MINING</td>
<td>3</td>
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</tr>
<tr>
<td>677</td>
<td>PARALLEL PROCESSING</td>
<td>3</td>
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<tr>
<td>680</td>
<td>SOFTWARE ENGINEERING METHODOLOGIES</td>
<td>3</td>
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<tr>
<td>689</td>
<td>ADVANCED TOPICS IN COMPUTER SCIENCE</td>
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<tr>
<td>695</td>
<td>PRACTICUM COMPUTER SCIENCE</td>
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</tr>
<tr>
<td>699</td>
<td>MASTER'S THESIS</td>
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### STATISTICS

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<tr>
<td>550</td>
<td>PROBABILITY</td>
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<tr>
<td>551</td>
<td>THEORETICAL STATISTICS I AND II</td>
<td>3</td>
<td>course description</td>
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</tbody>
</table>
560 STATISTICAL METHODS
Application of statistical methods to the social sciences including description statistics, probability distributions, statistical inference, correlation, simple and multiple linear regression, correlation, computer applications. May not be used to meet graduate major requirements in statistics. 4 credits

561 APPLIED STATISTICS
Prerequisite: Appropriate background is two semesters of calculus or equivalent. Applications of statistical theory to natural and physical sciences and engineering, including probability distributions, hypothesis testing, correlation, regression, and analysis of variance. May not be used to meet graduate major requirements in statistics. 4 credits

562 APPLIED REGRESSION AND ANOVA
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Applications of the techniques of regression and multifactor analysis of variance. May not be used to meet graduate major requirements in statistics. 4 credits

563 DESIGN OF SAMPLE SURVEYS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Design and analysis of frequently used sample survey techniques. 3 credits

568 RELIABILITY MODELS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Selected topics in reliability modeling including parametric and nonparametric models, competing modes of failure and accelerated life models. 3 credits

570 ACTUARIAL SCIENCE I
Prerequisite: Appropriate background is one semester of actuarial science or equivalent. Study of multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, nonforfeiture and dividends. 3 credits

571 ACTUARIAL SCIENCE II
Prerequisite: 570. Continuation of Actuarial Science I. Study of multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, nonforfeiture and dividends. 3 credits

574 FOUNDATIONS OF STATISTICAL QUALITY CONTROL
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. 3 credits

580 STATISTICAL DATA MANAGEMENT
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Students work with data sets in a statistical database, statistical software analysis, importing and exporting of data between software, and missing data analysis. 3 credits

588 TOPICS IN STATISTICS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Students work with data sets for projects in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others. 1-3 credits

591 WORKSHOP IN STATISTICS
Prerequisites: 568 or permission. Students will be assigned to work with an instructor on current problems in statistics. Contact 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 mathematics department majors. 1-3 credits

650 ADVANCED PROBABILITY AND STOCHASTIC PROCESSES
Prerequisite: 651. Random walk, distributions, unlimited sequence of trials, laws of large numbers, convolutions, branching processes, renewal theory, Markov chains, time-dependent stochastic processes. 4 credits

651 PROBABILITY AND STATISTICS
Prerequisite: Appropriate background is three semesters of calculus or equivalent. Probability, random variables and functions, moment-generating functions, random vectors, special distributions, limit theorems, sampling, point estimation, hypothesis testing, confidence estimation. 4 credits

652 ADVANCED MATHEMATICAL STATISTICS
Prerequisite: 651. Convergence of probability measures, the Central Limit Theorem; the multivariate normal distribution; introduction to linear models; Bayesian statistics. 3 credits

655 LINEAR MODELS
Prerequisites: Appropriate background is linear algebra or 651 or equivalent. General linear models; matrix notation, general linear hypothesis, regression models, experimental design models, analysis of variance and covariance, variance components. 3 credits

660 ADVANCED STATISTICAL METHODS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theory and applications of the techniques of regression and multifactor analysis of variance. 4 credits

661 STATISTICS FOR THE LIFE SCIENCES
Prerequisite: College level algebra or equivalent. Data description and presentation, probability applications in the life sciences (including sensitivity, specificity, relative risk), principles and application of statistical inference, ANOVA, correlation and regression. May not be used to meet graduate major requirements in statistics. 3 credits

663 EXPERIMENTAL DESIGN
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Selected topics in experimental design including random and fixed effects, nested designs, split plots designs, multiple comparisons, Latin squares, and analysis of covariance. 3 credits

664 STATISTICS FOR THE HEALTH SCIENCES
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 regressors; logistic regression. 4 credits

666 NONPARAMETRIC STATISTICS-METHODS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theory and practice using techniques requiring less restrictive assumptions. Nonparametric analogous to t- and F-tests, ANOVA, regression and correlation. Computer applications. 3 credits

667 FACTOR ANALYSIS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Theory and techniques for identifying variables through use of principal components and factor analysis. Identification of groups using cluster analysis. Computer applications. 3 credits

668 MULTIVARIATE STATISTICAL METHODS
Prerequisite: Appropriate background is two semesters of applied statistics or equivalent. Multivariate theory including distance concept, Hotelling T2, multivariate ANOVA, regression and correlation, linear contrasts, factorial experiments, nested and repeat measure designs, Bonferroni X2 tests, linear discrimination analysis, canonical correlations, application. 3 credits

670 BIOSTATISTICS
Prerequisite: Appropriate background is one semester of applied statistics or equivalent. Statistical issues and methods for biological, medical and health sciences including: clinical trials, sample size power, log-linear models, survival analysis, and bioassy. Computer applications. 3 credits

675 RESPONSE SURFACE METHODOLOGY
Prerequisite: Appropriate background is two semesters of applied statistics or equivalent. First and second order response designs, efficient experimental plans, methods for the analysis, and optimization of response functions. 3 credits

689 ADVANCED TOPICS IN STATISTICS
(May be repeated for a total of six credits) Prerequisite: 651. Selected topics in statistics including concepts in order, statistics, advanced inference, sequential analysis, stochastic processes, reliability theory, Bayesian statistics and regression. 1-3 credits

692 STATISTICS MASTERS PAPER
(May be repeated) Prerequisite: Permission of adviser. Supervised writing of paper for Masters of Science in Statistics Nonthesis Option. No more than two credits apply to major requirements. 1-3 credits

695 PRACTICUM IN STATISTICS AND MATHEMATICS
Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of statistics. May not be used to meet degree requirements. Credit/Noncredit. 1-3 credits

697 INDIVIDUAL READING
(May be repeated) Prerequisite: permission of adviser. Research in suitable topics in statistics culminating in a research paper. No more than 2 credits applicable to major requirements. 1-6 credits

698 MASTER'S THESIS
2 credits

699 MASTER'S THESIS
(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. 1-4 credits

ENGINEERING APPLIED MATHEMATICS
3490:

790 ADVANCED SEMINAR IN APPLIED MATHEMATICS
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. (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. 1-4 credits

981 PRELIMINARY RESEARCH
Prerequisite: Permission. (May be repeated.) Completion of qualifying examination and recommendation of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation topic. 1-15 credits

982 DOCTORAL DISSERTATION
Prerequisite: Permission. (May be repeated.) Completion of Candidacy examination and approval of Student Advisory Committee. Original research by a Ph.D. candidate. 1-15 credits

MODERN LANGUAGES
3500:

500 THE GENERAL DESIGNATION OF 3500 IS USED FOR LANGUAGES THAT DO NOT HAVE A SPECIFIC DEPARTMENT NUMBER

590 WORKSHOP
Prerequisite: Graduate status or permission of department. (May be repeated for a maximum of eight credits.) Group studies of special topics in modern languages. 1-4 credits

597 INDIVIDUAL READINGS IN MODERN LANGUAGES
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. 1-4 credits

ARABIC
3501:

522 SPECIAL TOPICS IN ARABIC
Prerequisite: Graduate status or 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. 1-4 credits

597 INDIVIDUAL READING IN ARABIC
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. 1-4 credits

CHINESE
3502:

522 SPECIAL TOPICS IN LANGUAGE, SKILLS, OR CULTURE OR LITERATURE
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 with different topic for a total of eight credits. 1-4 credits

597 INDIVIDUAL READING IN CHINESE
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. 1-4 credits

LATIN
3510:

597 LATIN READING AND RESEARCH
Prerequisite: Graduate status or permission of department. General Latin epigraphy, prose composition or philology, numismatics or certain other archaeological topics may be offered. May be repeated for credit with change of subject. 3 credits each

FRENCH
3520:

502 ADVANCED FRENCH GRAMMAR
Prerequisite: Graduate status or permission of department. Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles. 3 credits
513 FRENCH CINEMA 3 credits
Prerequisite: Graduate status or permission of department. Study and discussion of various aspects of French cinema and culture as characterized in movies.

522 SPECIAL TOPICS IN SPECIALIZED 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.

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 Latino experience of displacement and marginality through the analysis of cultural manifestations in the USA. Conducted in Spanish.

530 WOMEN IN 20TH CENTURY HISPANIC LITERATURE 4 credits
Prerequisite: Graduate status or permission of department. Reading and analysis of works from the 20th Century that depict women in Hispanic cultures. Methodologies of feminist criticism will be studied. Conducted in Spanish.

559 FRENCH CINEMA 3 credits
Prerequisite: Graduate status or permission of department. Study and discussion of various aspects of French cinema and culture as characterized in movies. Conducted in French.

597,8 INDIVIDUAL READING IN FRENCH 4 credits each
Prerequisites: Graduate status or permission of department. Individual reading in French, offered at the graduate level. (May be repeated for a total of eight credits.)

597,8 INDIVIDUAL READING AND RESEARCH IN FRENCH 1-4 credits each
Prerequisites: Graduate status or permission of department. Independent study and research in specific areas. Considerable reading and writing required.

GERMAN 3530:
597,8 INDIVIDUAL READING IN GERMAN 4 credits
Prerequisite: Graduate status or permission of department. Individual reading in German, offered at the graduate level. (May be repeated for a total of eight credits.)

ITALIAN 3550:
597 INDIVIDUAL READING IN ITALIAN 1-4 credits
Prerequisite: Graduate status or permission of department. Individual study under guidance of professor who directs and coordinates student's reading and research.

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 an overview of the structure of Spanish and areas of inquiry within linguistics: phonetics, phonology, morphology, syntax, semantics, and applied fields.

505 SPANISH LINGUISTICS: PHONOLOGY 4 credits
Prerequisites: Graduate status or permission of department. Descriptive study of Spanish phonetics and morphology, comparison of Spanish and English sounds, historical aspects, regional accents and sociolinguistic variation. Conducted in Spanish.

506 SPANISH LINGUISTICS: SYNTAX 4 credits
Prerequisites: Graduate status or permission of department. Descriptive study of Spanish syntax, introduction to theories of grammar, overview of Spanish semantics and pragmatics. Conducted in Spanish.

507 SURVEY OF HISPANIC LITERATURE: SPAIN 4 credits
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 language structures.

511 SPANISH DURING THE BARROQUE PERIOD 5 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 SPANISH WRITERS: DON QUIJOTE 4 credits
Prerequisite: Graduate status or permission of department. Reading and analysis of Don Quijote as the first modern novel in the historical context of Renaissance and Baroque esthetics. Conducted in Spanish.

513 THE DON JUAN MYTH IN SPANISH CULTURE 4 credits
Prerequisite: Graduate status or permission of department. Study of the evolution of the Don Juan myth from its origins to its latest transformations 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 dictatorships 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.

520 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 20th 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.
506 PHYSICAL OPTICS 3 credits
Prerequisite: Admission to the physics master's program or permission. Propagation, reflec-
tion, and refraction of waves, superposition, polarization, interference, diffraction, Fresnel and Fraunhof er diffraction, Fourier optics, coherence theory, and quantu-
m optics.

513 MECHANICS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Mechanics of inter-
mediate level. Newtonian mechanics, motion of a particle in one dimension, central field prob-
lem, system of particles, conservation laws, rigid bodies, gravitation.

522 MECHANICS II 3 credits
Prerequisite: Admission to the physics master's program or permission. Advanced mechanics at the intermediate level. Coordinates, moving coordinate systems, mechanics of con-
stant mass media. Lagrange's equations, tensor algebra and stress analysis, rotation or rigid bodies, vibration theory.

538 ELECTROMAGNETISM I 3 credits
Prerequisite: Admission to the physics master's program or permission. Electricity and mag-
netism at intermediate level. Electrostatics and magnetostatics, electric field, scalar potential, dielectric, Laplace’s and Poisson’s equations, current, magnetic field, vector potential, mag-
netic materials, induction.

539 ELECTROMAGNETISM II 3 credits
Prerequisite: Admission to the physics master's program or permission. Special relativistic the-
ory, Maxwell's equations in covariant form; propagation, reflection and refraction of elec-
tromagnetic waves, multipole radiation.

541 QUANTUM PHYSICS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Introduction to quan-
tum theory, Schrödinger equation, observables, angular momentum, perturbation theory, varia-
tion principle, bound states, scattering theory, radiative interactions, spin and the Pauli Principle.

542 QUANTUM PHYSICS II 3 credits
Prerequisite: Admission to the physics master's program or permission. Applications of quan-
tum mechanics to atomic, nuclear and solid state physics. Tunneling and alpha decay, peri-
odic potential, Hydrogen and Helium atoms, interatomic forces, quantum statistics.

551 ADVANCED LABORATORY I 3 credits
Prerequisite: Admission to the physics master's program or permission. Experimental tech-
niques applicable to research-type projects in contemporary physics. FT-IR spectroscopy, optical-
spectroscopy, lasers, SPM, and thin-film growth and characterization.

552 ADVANCED LABORATORY II 3 credits
Prerequisite: Admission to the physics master's program or permission. Experimental projects applicable to contemporary physics. Diode and dye lasers, laser feedback, chaos, NMR, elec-
tron tunneling, and fiber optics.

565 TECHNIQUES OF PHYSICS INSTRUCTION 1 credit
Prerequisite: Admission to the physics master's program or permission. Teaching assistants are
introduced to current research in learning physics, shown applications for their laboratory
and trained in skills needed as a laboratory teaching assistant.

570 INTRODUCTION TO SOLID-STATE PHYSICS 3 credits
Prerequisite: Admission to the physics master's program or permission. Account of basic
physical processes occurring in solids, with emphasis on fundamental relation between these
processes and periodicity of crystalline lattice.

581,2 METHODS OF MATHEMATICAL PHYSICS I and II 3 credits each
Prerequisite: Admission to the physics master's program or permission. Vectors, vectors in
coordinates, tensors, calculus of variations, vector spaces, linear transformations, matrices,
eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex vari-
ables, analytic functions, Green’s functions, integral equations.

588 SELECTED TOPICS: PHYSICS 1-4 credits
(May be repeated.) Prerequisite: Admission to the physics master's program or permission.
Consideration of selected topics, procedures, techniques, materials or apparatus of current
interest in physics.

590 WORKSHOP 1-4 credits
(May be repeated.) Prerequisite: Admission to the physics master's program or permission.
Further investigations of various selected topics in physics, under guidance of faculty member.

597 INDEPENDENT STUDY 1-4 credits
(May be repeated.) Prerequisite: Admission to the physics master's program or permission.
Further investigations of various selected topics in physics, under guidance of faculty member.

598 PHYSICS COLLOQUIUM 1 credit
Prerequisite: Admission to the physics master's program or permission; 1 credit is awarded for M.S. degree. Optional.
Lectures on current research topics in physics by invited speakers. May be repeated, but only one credit
may be earned from this course.

605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Review of FORTRAN
and basic topics in computer science. Numerical solutions to physics problems, including New-
ton's method, least squares, floating point number systems, curve-fitting. May accommodate
scientific problems of individual interest.

606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II 3 credits
Prerequisite: Admission to the physics master's program or permission. Data reduction, Cal-
comp plotting, comparison of theoretical models with data, linear and non-linear least squares
curve-fitting. May accommodate scientific problems of individual interest.

612 SURFACE PHYSICS 3 credits
Prerequisite: Admission to the physics master's program or permission. An interdisciplinary
course stressing the fundamentals and applications of physics at surfaces, including corrosion,
adsorption, penetration, and tribology.

615 ELECTROMAGNETIC THEORY I 3 credits
Prerequisite: Admission to the physics master's program or permission. Electromagnetics and
electrostatics at advanced undergraduate level. Methods and applications to graduate students, boundary value problems, dielectric, multipole expansions, time-varying fields, Maxwell's equations and electromagnetic waves, reflection, refraction, wave guides and cavities.

616 ELECTROMAGNETIC THEORY II 3 credits
Prerequisite: Admission to the physics master's program or permission. Scattering and diff-
fraction, plasma physics, special theory of relativity, dynamics of relativistic particles in fields,
collisions of charged particles, radiation from moving charges, bremsstrahlung, multiple fields.

625 QUANTUM MECHANICS I 3 credits
Prerequisite: Admission to the physics master's program or permission. Basic concepts of
quantum mechanics, representation theory, particle in a central field, addition of angular
momentum and spins, Clebsch-Gordan coefficients, perturbation theory, scattering, transition probabilities.

626 QUANTUM MECHANICS II 3 credits
Prerequisite: Admission to the physics master's program or permission. Foundation of relativ-
istic quantum mechanics. Klein-Gordon and Dirac equations, spin-zero and spin-1/2 parti-
cles in electromagnetic field, second quantization of bosons and fermions, superfluidity and super-conductivity.
### PSYCHOLOGY 3750:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>PERSONALITY: admission to the Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.</td>
<td>4</td>
</tr>
<tr>
<td>510</td>
<td>PSYCHOLOGICAL TESTS AND MEASUREMENTS</td>
<td>4</td>
</tr>
<tr>
<td>520</td>
<td>ABNORMAL PSYCHOLOGY: admission to the Graduate School. Survey of syndromes, etiology, diagnoses and treatments of major psychological conditions ranging from transient maladjustments to psychoses.</td>
<td>4</td>
</tr>
<tr>
<td>530</td>
<td>PSYCHOLOGICAL DISORDERS OF CHILDREN: admission to the Graduate School. Survey of syndromes, etiologies and treatments of behavioral disorders in children from the standpoint of developmental psychology. Behavioral data and treatments emphasized.</td>
<td>4</td>
</tr>
<tr>
<td>543</td>
<td>HUMAN RESOURCE MANAGEMENT</td>
<td>4</td>
</tr>
<tr>
<td>544</td>
<td>ORGANIZATIONAL THEORY: admission to the Graduate School. The application of psychological theory to the effective management of human resources in an organization, including recruitment, selection, training and retention of personnel.</td>
<td>4</td>
</tr>
<tr>
<td>545</td>
<td>COGNITIVE DEVELOPMENT: admission to the Graduate School. Theory and research on life-span changes in cognitive processes including concept formation/categorization, information processing and Piagettiian assessment tasks.</td>
<td>4</td>
</tr>
<tr>
<td>560</td>
<td>HISTORY OF PSYCHOLOGY: admission to the Graduate School. Psychology in pre-scientific period and details of development of systematic views in 19th and 20th centuries.</td>
<td>3</td>
</tr>
<tr>
<td>601</td>
<td>PSYCHOLOGICAL RESEARCH USING QUANTITATIVE AND COMPUTER METHODS I AND II: sequence prerequisite: graduate standing in psychology or the collaborative doctoral program in counseling psychology or special nondegree students with permission. Psychological research problem applying quantitative and computer methods. Topics include research design, sampling, controls, threats to validity, hypotheses testing, psychometric measurement, error, robustness and power.</td>
<td>4</td>
</tr>
<tr>
<td>602</td>
<td>CORE I: SOCIAL PSYCHOLOGY: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Introduction to empirical research and theories on the psychological processes related to interpersonal behavior, focusing on topics like attitude change, social influence, and prosocial behavior.</td>
<td>2</td>
</tr>
<tr>
<td>603</td>
<td>CORE II: COGNITIVE PSYCHOLOGY: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of theories, concepts, empirical phenomena, and methodologies in human cognitive psychology. Topics include attention, cognitive capacity, learning, memory, categorization, skill acquisition/expertise, and training effectiveness.</td>
<td>2</td>
</tr>
<tr>
<td>650</td>
<td>CORE III: INDIVIDUAL DIFFERENCES: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of methodological issues on individual differences in personality, social, cognitive and emotional processes.</td>
<td>2</td>
</tr>
<tr>
<td>640</td>
<td>CORE IV: BIOPSYCHOLOGY: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Survey of brain system structure/function including neuroanatomy, neuron physiology, and synaptic transmission. Also covers biological bases of memory, learning, consciousness, intelligence, psychopharmacology, behavior genetics.</td>
<td>2</td>
</tr>
<tr>
<td>650</td>
<td>CORE V: SOCIAL-COGNITIVE PSYCHOLOGY: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Social and cognitive theory/research applied to the study of how people understand their social experiences. Topics include: person perception, attribution, social cognition, social comparison, social influence, social comparison judgments, and norms.</td>
<td>2</td>
</tr>
<tr>
<td>680</td>
<td>SCIENCE AND ETHICS OF INDUSTRIAL PSYCHOLOGY: graduate standing in psychology or the collaborative doctoral program in counseling psychology or permission of instructor. Consideration of the nature, construction and development of therapeutic skills and intervention techniques via supervision, roleplay exercises, and case conferences, and evaluations of actual clinical work samples. (May be repeated for a total of 4 credits.)</td>
<td>4</td>
</tr>
<tr>
<td>671</td>
<td>COUNSELING PRACTICUM: graduate standing in psychology and permission of instructor. Introduction to development of therapeutic skills and intervention techniques via supervision, roleplay exercises, and case conferences, and evaluations of actual clinical work samples. (May be repeated for a total of 4 credits.)</td>
<td>2</td>
</tr>
<tr>
<td>671</td>
<td>COUNSELING PRACTICUM LAB: graduate standing in psychology and permission of instructor. Corequisite: 671. Application of therapeutic skills and intervention techniques to work with clients in the Psychology Department Counseling Clinic, including small group supervision of clinical work.</td>
<td>2</td>
</tr>
<tr>
<td>674</td>
<td>PERSONNEL PRACTICUM: graduate standing in psychology or the collaborative doctoral program in counseling psychology and permission of the instructor. Supervised field experience in industrial/organizational psychology in settings including business, government or social organizations. The field experience requires the application of industrial/organizational psychological theories and techniques.</td>
<td>1-4</td>
</tr>
<tr>
<td>675</td>
<td>APPLIED COGNITIVE AGING PRACTICUM: graduate standing in psychology, 14 credits of graduate psychology, and permission of instructor. Supervised field experience in applied cognitive aging psychology to provide the student with the opportunity to apply skills and knowledge acquired in the academic content to obtain knowledge about community programs and agencies which focus on developmental processes. (May be repeated.)</td>
<td>1-4</td>
</tr>
<tr>
<td>680</td>
<td>EXTERNAL SPECIAL TOPICS: graduate standing in psychology, 14 credits of graduate psychology, and permission of instructor. Supervised field experience in applied cognitive aging psychology to provide the student with the opportunity to apply skills and knowledge acquired in the academic content to obtain knowledge about community programs and agencies which focus on developmental processes. (May be repeated for a maximum of 16 credits.)</td>
<td>1-4</td>
</tr>
</tbody>
</table>

### Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>570</td>
<td>CAMPAIGN MANAGEMENT I: Reading, research and practice in campaign management.</td>
<td>3</td>
</tr>
<tr>
<td>571</td>
<td>CAMPAIGN MANAGEMENT II: The second course in campaign management. Focus is on timing, coalition building, candidate positioning, event planning, internal organization, and other elements of campaign strategy.</td>
<td>3</td>
</tr>
<tr>
<td>572</td>
<td>CAMPAIGN FINANCE: Reading and research in finance and decision making in political campaigns.</td>
<td>3</td>
</tr>
<tr>
<td>573</td>
<td>VOTER CONTACT AND ELECTIONS: Theoretical and practical approaches to gaining votes in all types of political campaigns.</td>
<td>3</td>
</tr>
<tr>
<td>574</td>
<td>POLITICAL OPINION, BEHAVIOR AND ELECTORAL POLITICS: Advanced analysis of psychological, cultural and group processes of opinion formation and the impact of opinion change on electoral outcomes.</td>
<td>3</td>
</tr>
<tr>
<td>575</td>
<td>AMERICAN INTEREST GROUPS: Reading and research on the development, structure and function of interest groups in the United States.</td>
<td>3</td>
</tr>
<tr>
<td>576</td>
<td>AMERICAN POLITICAL PARTIES: Prerequisite: six credits of political science or permission. Reading and research on the development, structure and function of parties in the United States.</td>
<td>3</td>
</tr>
<tr>
<td>577</td>
<td>LOBBYING: Prerequisite: six credits of political science or permission. Examines the lobbying profession in the political process. Topics include theories of lobbying, types of lobbying, the lobbying process, and types of lobbyists.</td>
<td>3</td>
</tr>
<tr>
<td>580</td>
<td>POLICY PROBLEMS: (May be repeated for a total of six credits) Intensive study of selected problems in public policy.</td>
<td>3</td>
</tr>
<tr>
<td>581</td>
<td>THE CHALLENGES OF POLICE WORK: Analysis of various political dimensions underlying the study of politics and policing in the context of police reform, crime, and the community.</td>
<td>3</td>
</tr>
<tr>
<td>582</td>
<td>CURRENT ISSUES (CJ TOPIC): Study and critical analysis of current issues, programs, and policies relating to political science and criminal justice at the federal or state level.</td>
<td>3</td>
</tr>
<tr>
<td>583</td>
<td>CONSTITUTIONAL PROBLEMS IN CRIMINAL JUSTICE: Prerequisite: 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.</td>
<td>3</td>
</tr>
<tr>
<td>590</td>
<td>WORKSHOP IN POLITICAL SCIENCE: Prerequisite: Admission to a Political Science graduate program or permission. Examination of changing needs of our students in response to new and emerging political issues and controversies.</td>
<td>1-3</td>
</tr>
<tr>
<td>600</td>
<td>SCOPE AND THEORIES OF POLITICAL SCIENCE: 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.</td>
<td>3</td>
</tr>
<tr>
<td>601</td>
<td>RESEARCH METHODS IN POLITICAL SCIENCE: Prerequisite: 600 or permission. Techniques of quantitative research methodology in political science; utility and limitations of quantitative analysis.</td>
<td>3</td>
</tr>
<tr>
<td>602</td>
<td>FOUNDATIONS OF POLITICAL SCIENCE: 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.</td>
<td>3</td>
</tr>
<tr>
<td>620</td>
<td>SCHOLARLY WRITING AND PROFESSIONAL DEVELOPMENT IN POLITICAL SCIENCE: Prerequisite: Admission to a Political Science graduate program or permission. Course will assist in the development of Essay/Capstone projects: organization, format presentation, editing, committee review. Will help polish student writing and presentation skills.</td>
<td>3</td>
</tr>
<tr>
<td>620</td>
<td>SEMINAR IN INTERNATIONAL POLITICS: Prerequisite: Admission to a Political Science graduate program or permission. Analysis of current problems in theory and practice of politics and organization.</td>
<td>3</td>
</tr>
<tr>
<td>620</td>
<td>SEMINAR IN COMPARATIVE POLITICS: Prerequisite: Admission to a Political Science graduate program or permission. Research selected topics in comparative politics. Comparative method.</td>
<td>3</td>
</tr>
<tr>
<td>620</td>
<td>SEMINAR IN ALTERNATIVES TO VIOLENCE AT HOME AND ABROAD: Prerequisite: Admission to a Political Science graduate program or permission. An interdisciplinarian analysis of the nature of violence—from inter-personal to international—to enhance our capacity to reduce violence and other threats to liberty.</td>
<td>3</td>
</tr>
<tr>
<td>620</td>
<td>SEMINAR IN NATIONAL POLITICS: Prerequisite: Admission to a Political Science graduate program or permission. Reading and research on formulation, development and implementation of national policy in one or more policy makers.</td>
<td>3</td>
</tr>
<tr>
<td>620</td>
<td>SEMINAR ON LAW, PUNISHMENT, AND POLITICS: U.S. AND THE WORLD: Prerequisite: Admission to a Political Science graduate program or permission. Reading and research on the multiple and contingent interconnections between law, punishment, politics, and power.</td>
<td>3</td>
</tr>
<tr>
<td>655</td>
<td>CAMPAIGN AND ELECTION LAW: Prerequisite: Admission to a Political Science graduate program or permission. Examines the legal environment for campaign participants. Topics include historical background, legal foundation, voting rights, filling requirements, campaign finance, and political advertising.</td>
<td>3</td>
</tr>
<tr>
<td>666</td>
<td>SEMINAR IN PUBLIC POLICY AGENDAS AND DECISIONS: Prerequisite: 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 political leaders.</td>
<td>3</td>
</tr>
<tr>
<td>672</td>
<td>SEMINAR: POLITICAL INFLUENCE AND ORGANIZATIONS: Prerequisite: Admission to a Political Science graduate program or permission. Examination of how public concerns and demands are resolved or diffused. A theoretical and applied look at parties, interest groups, public opinion, media, and political elites.</td>
<td>3</td>
</tr>
<tr>
<td>690</td>
<td>SPECIAL TOPICS IN POLITICAL SCIENCE: Prerequisite: Admission to a Political Science graduate program or permission. Graduate level seminar in selected topics in American politics, comparative politics, international politics, international political theory or policy.</td>
<td>1-3</td>
</tr>
<tr>
<td>695</td>
<td>INTERNSHIP IN GOVERNMENT AND POLITICS: Prerequisite: Admission to a Political Science graduate program or permission. Supervised individual placement with political office holders, party groups, governmental agencies, law firms and other organizations providing professional-level training in political science.</td>
<td>3-6</td>
</tr>
<tr>
<td>697</td>
<td>INDEPENDENT RESEARCH AND READINGS: Prerequisite: Admission to a Political Science graduate program or permission. (May be repeated, but no more than six credits toward the master’s degree in political science)</td>
<td>1-4</td>
</tr>
<tr>
<td>699</td>
<td>MASTERS THESIS: Prerequisite: Admission to a Political Science graduate program or permission.</td>
<td>2-6</td>
</tr>
</tbody>
</table>
700 MASTER'S THESIS
4 credits
(May be repeated.) Prerequisite: permission of instructor. Research analysis of data and presentation of thesis for master's degree.

701 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 of Rorschach and survey other important contemporary projective instruments.

702 PSYCHODIAGNOSTICS
4 credits
Prerequisite: 700. Application of psychological testing to problems of diagnosis and evaluation. Practice in administration, scoring and interpretation. Integration of projective data with other assessment techniques in variety of settings.

703 SUPERVISION IN COUNSELING PSYCHOLOGY
4 credits
Prerequisite: doctoral candidate or permission of instructor. Instruction and experience in supervising a graduate student in counseling.

704 INTRODUCTION TO COUNSELING PSYCHOLOGY
2 credits
Prerequisite: graduate standing in Counseling Psychology. Introduction to historical foundations of and recent developments in counseling psychology, with an emphasis on contemporary research literature in the field.

705 THEORIES OF COUNSELING AND PSYCHOTHERAPY
4 credits
Prerequisite: 630 or instructor's permission. Major systems of individual psychology explored within a philosophy of science framework: Freudian, behavioral, Rogerian, cognitive, and other. Includes research, contemporary problems and ethics.

706 VOCATIONAL BEHAVIOR
4 credits
Prerequisite: 630 or permission of instructor. Theories and research on vocational behavior and vocational counseling. Topics include research on vocational behavior. Examination on these theories, applied work in vocational counseling and applied research.

711 PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING
4 credits
Prerequisite: 630 or graduate standing in school psychology, and instructor's permission. History, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.

712 PROFESSIONAL, ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY
4 credits
Prerequisite: doctoral standing or permission of the instructor. Study of research design, evaluation procedures, and review of current research.

713 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY
4 credits
Prerequisite: 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 spirituality.

714 HISTORY AND SYSTEMS IN PSYCHOLOGY
3 credits
Prerequisite: 630. Philosophical and scientific antecedents of psychology and details of the development of systematic viewpoints in the 19th and 20th centuries.

715 PSYCHOLOGY OF ADULTHOOD AND AGING
4 credits
Prerequisite: graduate standing in psychology or in the collaborative program in counseling psychology or permission of the instructor. Aspects of development, aging with emphasis on life-span methodology and research designs. Age-related changes in intelligence, personality sensation, perception, learning, memory, and socialization and intervention approaches.

716 PERCEPTION, ATTENTION, AND AGING
4 credits
Prerequisite: 630 or instructor's permission. Perception, attention and perception and how aging affects these phenomena.

717 COGNITIVE NEUROPSYCHOLOGY
4 credits
Prerequisite: graduate standing in psychology or permission of instructor. Study of recent research and practice in the area of performance appraisal. Topics will include: criterion development, rater training, appraisal effectiveness, feedback processes, and performance management.

718 COGNITIVE ASSESSMENT
2 credits
Prerequisite: 750 and enrollment in the Collaborative Program in Counseling Psychology or permission. History, principles, and methodology of cognitive assessment, supervised practice in administration, scoring, and interpretation of individual intelligence tests for children and adults.

719 OBJECTIVE PERSONALITY ASSESSMENT
2 credits
Prerequisite: 750. Study of the development, administration, and interpretation of objective measures of personality assessment (MMPI, PAI, 16PF and selected additional inventories).

720 RESEARCH DESIGN IN COUNSELING PSYCHOLOGY
3 credits
Prerequisite: doctoral standing or permission of the instructor. Study of research design, evaluation procedures, and review of current research.

721 PRINCIPLES OF JOB EVALUATION AND PAY
4 credits
Prerequisite: 660. Major job evaluation systems will be reviewed and critiqued. Issues such as minimum qualifications for a job will be reviewed. Advantages and disadvantages of various job evaluation systems will be compared. Issues concerning federal regulation including the Equal Pay Act, comparable worth and other issues will be discussed. Regression analyses to job evaluation and applicable court cases will be reviewed.

722 ORGANIZATIONAL CHANGE AND TRANSFORMATION
4 credits
Prerequisite: 750 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.

723 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.

725 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 staffing and compensation.

726 PERFORMANCE FEEDBACK AND EVALUATION
4 credits
Prerequisite: 660, graduate standing in psychology, or permission of instructor. Examinations of current and past research. Topics will include: criterion development, rater training, appraisal effectiveness, feedback processes, and performance management.

727 CRIMINAL PSYCHOLOGY
4 credits
Prerequisite: 730. The leadership process and its relation to motivation, group performance and attribution is also analyzed.

728 CRIMINAL PSYCHOLOGY
4 credits
Prerequisite: 730. The leadership process and its relation to motivation, group performance and attribution is also analyzed.

729 PSYCHOPHARMACOLOGY AND ADULTHOOD
4 credits
Prerequisite: 630 or instructor's permission. Addresses a diverse range of drugs that act on the brain. Drug mechanisms are discussed in the context of emotional, cognitive, and behavioral effects.

730 PSYCHOPHARMACOLOGY AND ADULTHOOD
4 credits
Prerequisite: 640 or instructor's permission. Addresses a diverse range of drugs that act on the brain. Drug mechanisms are discussed in the context of emotional, cognitive, and behavioral effects.

731 INDUSTRIAL GERONTOLOGY
4 credits
Prerequisite: 660, graduate standing in psychology, or permission of the instructor. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, testing, motivation, counseling and preparing older employees; health and safety, job design, vocational guidance; and retirement.

732 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS
2 credits
Prerequisite: 727, graduate standing in psychology, or permission of instructor. Examination of psychometric theory, evaluation, test construction, theory and practice in the area of performance appraisal. Topics will include: criterion development, rater training, appraisal effectiveness, feedback processes, and performance management.

733 PSYCHOPHARMACOLOGY AND ADULTHOOD
4 credits
Prerequisite: 630 or instructor's permission. Addresses a diverse range of drugs that act on the brain. Drug mechanisms are discussed in the context of emotional, cognitive, and behavioral effects.
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>677</td>
<td>FAMILY ANALYSIS</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis and evaluation of sociological theory and research in the family. Concentration on techniques of theory construction and research design in sociological study of the family. (Same as KSU 72543) Seminar.</td>
</tr>
<tr>
<td>678</td>
<td>SOCIAL GERONTOLOGY</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Impact of ageing upon individuals and society. Reactions of individuals and society to ageing. (Same as KSU 72877) Seminar.</td>
</tr>
<tr>
<td>679</td>
<td>POLITICAL SOCIOLOGY</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Description, analysis and interpretation of political behavior through application of sociological concepts. (Same as KSU 72544) Seminar.</td>
</tr>
<tr>
<td>686</td>
<td>POPULATION</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of basic population theory and methods. Trends and differentials in fertility, mortality, migration and selected social demographic variables also considered. (Same as KSU 72656) Seminar.</td>
</tr>
<tr>
<td>687</td>
<td>SOCIAL CHANGE</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Advanced seminar in theories of social change. (Same as KSU 72320) Seminar.</td>
</tr>
<tr>
<td>696</td>
<td>MASTER’S RESEARCH PAPER</td>
<td>1-6 credits</td>
<td>(Must be repeated for a minimum of six credits.) Prerequisite: Graduate standing in Sociology or permission of instructor. Supervised writing of a paper for Master’s Research Paper Option.</td>
</tr>
<tr>
<td>700</td>
<td>COLLEGE TEACHING OF SOCIOLOGY</td>
<td>3 credits</td>
<td>Prerequisite: Teaching assistant in sociology or permission of instructor. Training and experience in college teaching of sociology. Approved for credit toward the Ph.D. degree. Not approved as credit toward the degree. (Same as KSU 72284) Seminar.</td>
</tr>
<tr>
<td>708</td>
<td>MULTIVARIATE TECHNIQUES IN SOCIOLOGY</td>
<td>4 credits</td>
<td>Prerequisites: 604 or permission; sociology student only. Methodological problems using advanced multivariate techniques in analysis of sociological data. Topics include non-experimental causal analysis such as recursive and nonrecursive path analysis. (Same as KSU 72217).</td>
</tr>
<tr>
<td>714</td>
<td>QUALITATIVE METHODOLOGY</td>
<td>4 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Study of qualitative methods including interviewing, observation, use of personal documents, archival data, and special problems of recording and analyzing qualitative data. (Same as KSU 72219) Lecture.</td>
</tr>
<tr>
<td>721</td>
<td>HUMAN SOCIOLOGICAL PROBLEMS</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Two to four major sociological thinkers prior to 1930 examined in depth. Specific persons considered will be chosen by instructor but will be announced well in advance of beginning of class. (Same as KSU 72919) Seminar.</td>
</tr>
<tr>
<td>723</td>
<td>CONTEMPORARY SOCIOLOGICAL THOUGHT</td>
<td>3 credits</td>
<td>Prerequisite: 722 and graduate standing in Sociology or permission. Intensive, critical analysis of current scholarship in a broad range of contemporary sociological theories. Virtually all required reading will be from primary sources. (Same as KSU 72059) Seminar.</td>
</tr>
<tr>
<td>726</td>
<td>STRATIFICATION AND HEALTH</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Race, social class, and gender differences in physical and mental health status, help-seeking behavior, and health care. Race, class, and gender stratification of health care workers. (Same as KSU 72328) Seminar.</td>
</tr>
<tr>
<td>727</td>
<td>SOCIOLOGY OF OCCUPATIONS, PROFESSIONS AND HEALTH CARE</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Sociological examination of the organization of work in the health care field with emphasis on occupations, professions, and health care delivery. (Same as KSU 73237) Seminar.</td>
</tr>
<tr>
<td>728</td>
<td>SOCIOLOGY OF MENTAL HEALTH AND MENTAL DISORDERS</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Sociological examination of the social processes that affect mental health, that frame cultural ideas of normality and illness, and that define clinical pathology. (Same as KSU 72506) Seminar.</td>
</tr>
<tr>
<td>747</td>
<td>URBAN SOCIOLOGY</td>
<td>3 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. Analysis of theories of urban process and review of major contributions to empirical analysis of urban life. (Same as KSU 72696) Seminar.</td>
</tr>
<tr>
<td>753</td>
<td>SPECIAL TOPICS IN SOCIAL ORGANIZATION</td>
<td>1-3 credits</td>
<td>(May be repeated) Prerequisite: Graduate standing in Sociology or permission of instructor. Open course to cover current and not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 72595) Seminar.</td>
</tr>
<tr>
<td>797</td>
<td>INDIVIDUAL INVESTIGATION</td>
<td>1-3 credits</td>
<td>(May be repeated) Prerequisite: One semester of graduate work, permission of instructor, advisor and chair of department. Readings and/or research supervised by member of graduate faculty. (Same as KSU 72968) Seminar.</td>
</tr>
<tr>
<td>899</td>
<td>DOCTORAL DISSERTATION</td>
<td>1-0 credits</td>
<td>Prerequisite: Graduate standing in Sociology or permission of instructor. (Must be repeated for a minimum of 30 credits) Dissertation. (Same as KSU 82919) Seminar.</td>
</tr>
</tbody>
</table>
647 AGING POLICY
3 credits
In this course students will examine political institutions that impact the adoption and imple-
mentation of programs for the aged, including Medicare, Medicaid, and Social Security.

650 COMPARATIVE URBAN SYSTEMS
9 credits
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analy-
sis among a number of major cities selected from each continent.

651 INTRODUCTION TO CITY MANAGEMENT
3 credits
Prerequisite: completion of 611 or waiver of advisor. This course examines the historical role
of city management in professionalizing local government operations and examines trends in
management practice that affect the city manager.

660 STRATEGIC MANAGEMENT IN PUBLIC AND NON PROFIT SECTORS
3 credits
This course examines disciplined effort to produce fundamental decisions and actions that
shape the future of public organizations, what they do and why they do it.

661 PUBLIC PROJECT DESIGN AND MANAGEMENT
3 credits
Prerequisites: 600, 642. Provides in-depth theoretical overview of the public project cycle
including hands-on approaches to design and management. Examines frameworks for imple-
mentation, monitoring and analysis of project impact.

662 FUNDRAISING AND RESOURCE MANAGEMENT
3 credits
Prerequisite: permission. Examines alternative methods of fundraising and unique resource
management challenges and opportunities of non-profit organizations.

663 NON-PROFIT MANAGEMENT
3 credits
Prerequisite: permission. This course will provide students with a broad understanding of
the operating environment, unique aspects of leadership, resource development, aspects of vol-
teerism, and management processes in non-profit organizations.

664 MANAGING INFORMATION AND TECHNOLOGY IN THE PUBLIC SECTOR
3 credits
Prerequisite: permission. Focus on issues that confront public managers in utilizing informa-
tion as an organizational asset.

671 PROGRAM EVALUATION IN URBAN STUDIES
3 credits
Prerequisites: 600 or equivalent. Major considerations appropriate for conducting evaluations of
a wide variety of human service programs and policies affecting urban and metropolitan areas.

673 COMPUTER APPLICATIONS IN PUBLIC ORGANIZATIONS
3 credits
Prerequisites: 600 and 601. Introduction to microcomputer applications in the public sector; includ-
ing data entry, statistical analysis, report writing, graphical representation and spreadsheets.

674 ANALYTICAL TECHNIQUES FOR PUBLIC ADMINISTRATORS
3 credits
Prerequisite: 600. Public sector applications of quantitative methods, including decision analy-
sis, queuing theory, mathematical programming and simulation.

675 ADVANCED TECHNIQUES IN POLICY ANALYSIS
3 credits
Prerequisites: 600, 601. Public sector application of techniques for analyzing policy proposals,
including decision analysis and simulations.

680 SELECTED TOPICS IN URBAN STUDIES
1-3 credits each
Prerequisite: permission. Selected topics in specific areas of urban planning, in various devel-
OPMENTAL processes of cities, or in various urban policy and administrative issues. (A maximum of
27 credits may be earned in 680 and 681.)

690 URBAN STUDIES SEMINAR
3 credits
Prerequisite: 6 credits of urban studies core plus quantitative methods. Urban research meth-
ods applied to specific urban research area. Comprehensive paper required.

691 MASTER'S COLLOQUIUM
1 credit
This course is required for masters students on assistantships. The course reviews program-
ning, research, and curricula issues in the masters program.

695 INTERNSHIP
1-3 credits
Faculty-supervised work experience for "pre-service" students participating in policy planning
and administration in public and non-profit organizations.

699 INDIVIDUAL STUDIES
1-3 credits
Prerequisite: permission. May be repeated for a maximum of six credits) Directed individual read-
ings or research on specific area or topic.

701 MASTER'S THESIS
1-9 credits
Prerequisite: permission. Supervised thesis writing. (May be repeated for a total of nine cred-
its, however, only six credits apply toward degree. Replaces two courses in specialization.)

702 ADVANCED RESEARCH METHODS I
3 credits
Prerequisite: master's level statistics or permission. Introduction to statistical techniques and
statistical methodologies in doctoral and postdoctoral research. Emphasis on conceptual and mathe-
matical interrelationships.

703 ADVANCED RESEARCH METHODS II
3 credits
Prerequisite: 702 or equivalent. Continuation of 701. Emphasis placed on conceptual and mathema-
tical interrelationships.

704 URBAN THEORY I
3 credits
Prerequisite: permission. Review of major theoretical traditions examining urban problems; for
students entering the doctoral program in urban studies (first in two-course sequence).

705 URBAN THEORY II
3 credits
Prerequisite: 702. Review of major professional disciplines dealing with urban problems; for
students entering the doctoral program in urban studies (second in two-course sequence).

706 PUBLIC BUREAUCRACY
3 credits
Prerequisite: permission. Analysis of bureaucratic operations in the implementation of public pol-
icy, including special attributes of human service organizations and the democratic theory of.

707 ECONOMICS OF URBAN POLICY
3 credits
Prerequisite: permission. Analysis of urban planning policy issues and strategies for imple-
menting programs of public policy which are designed to enhance the quality of life.

708 ECONOMICS OF URBAN POLICY
3 credits
Prerequisite: permission. Analysis of urban planning policy issues and strategies for imple-
menting programs of public policy which are designed to enhance the quality of life.

709 PROGRAM EVALUATION
3 credits
Prerequisite: permission. Examines the design and analysis of evaluation research projects for
planning and policy making.

710 QUALITATIVE RESEARCH METHODS
3 credits
Prerequisites: 700 and 701. Critical examination of Social Science Research methodologies such
as content analysis. Open-ended survey techniques and other means of creating non-
statistically generated data.
511 METHODS OF TEACHING SECONDARY ART 3 credits
Prerequisite: admission to Teacher Education Program Art P-12. A lecture course providing the knowledge, skills, and experiences 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 COLOQUIUM 1 credit
Prerequisites: Successful completion of field experience and permission. Corequisites: 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 MULTIPURITY 3 credits
Prerequisites: 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 in specialized printmaking media like Photography, Digital Printing, and Book Arts among others. May be offered in conjunction with University sponsored residencies or travel.

523 COMMUNITY BASED ART EDUCATION 3 credits
A service learning course for art educators that combines traditional lecture, demonstration, and hands-on workshop to introduce students to contemporary practices in community-based arts.

524 MIDDLE SCHOOL MATERIALS AND TECHNIQUES 3 credits
A lecture course in which students will gain a hands-on approach to developing instructional art materials and lessons for the middle school.

525 CERAMICS: METHODS, MATERIALS, AND CONCEPTS 3 credits
Ceramics for teachers, introduces the potter’s wheel, hand-building, firing kilns, history of the ceramic forms, safety in the studio, and strategies for teaching ceramics. (Lab)

526 EARLY CHILDHOOD ART EDUCATION 3 credits
A lecture course for art educators exploring visual arts as a vehicle for whole child development in grades K-5. K-5 school setting.

527 ART IN THE INCLUSIVE CLASSROOM 3 credits
Prerequisite: 5100:620. Art education course exploring the use of art with diverse populations through lecture, hands-on art making and site visits.

528 ELEMENTARY FIELD EXPERIENCE: ART LICENSURE 1 credit
Corequisite: 7100:510. Instructional field experience in the K-12 art classroom to apply theory and research into practice.

529 ELEMENTARY FIELD EXPERIENCE: ART LICENSURE 1 credit
Corequisite: 7100:511. Instructional field experience in the P-6 art classroom to apply theory and research into practice.

530 PROFESSIONAL PRACTICES FOR ART EDUCATORS 3 credits
Prerequisites: 5100:510 and 511. A lecture course providing support and guidance to develop the pre-professional skills and knowledge necessary for employment in the field of Art Education.

544 ADVANCED CERAMICS 3 credits
Prerequisite: Permission. Studio course with emphasis on advanced ceramic techniques.

560 GRADUATE STUDIO: 2-D MEDIA 3 credits
Graduate studio in two dimensional design media. Special topics and focus vary.

561 GRADUATE STUDIO: 3-D MEDIA 3 credits
Graduate studio in three dimensional design media. Special topics and focus vary.

562 GRADUATE STUDIO: PHOTOGRAPH/DIGITAL MEDIA 3 credits
Graduate studio in photographic/digital media. Special topics and focus vary.

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.

597 INDEPENDENT STUDIES 1-3 credits
(May be repeated for credit when credit is earned). 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.

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) Pre-requisite: A credit 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.

599 ADVANCED SEMINAR IN ART EDUCATION 3 credits
Prerequisite: Acceptance to the MS program in Secondary Education with Visual Art Licensure. This lecture course provides focused and intensive in art education introducing students to historical, contemporary, philosophical issues in art education. Contemporary problems, theories and practices in art education also addressed.

600 SPECIAL TOPICS: ART EDUCATION 1-3 credits
(May be repeated for 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.

5110 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, arts-based curriculum for the elementary school. No credit as elective courses for art majors.

ART 7100:

501 SPECIAL TOPICS IN HISTORY OF ART 1-3 credits
Prerequisite: Permission. A special course focusing on a particular movement, period, style, 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 art criticism and art history.

505 HISTORY OF ART SYMPOSIUM 1-3 credits
Prerequisite: Permission of instructor. Lecture, discussion and research group related to a specific topic or to an artistic problem.

506 HISTORY OF ART HISTORINESS 3 credits
Prerequisite: Permission of instructor. This course explores the history of the discipline and the permutations it has undergone since its establishment in the early years of the nineteenth century.

510 METHODS OF TEACHING ELEMENTARY ART 3 credits
Prerequisite: admission to Teacher Education Program Art P-12. A lecture course presenting the necessary skills and knowledge to successfully implement, plan, instruct, and assess a diverse, arts-based curriculum for the elementary school. No credit as elective courses for art majors.
506 FAMILY FINANCIAL MANAGEMENT 3 credits
Analysis of the family as a financial unit including financial problems and 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 consistent with the employment expectations of graduates of vocational job training programs in Family and Consumer Sciences.

518 HISTORY OF INTERIOR DESIGN I 4 credits
The study of furnishings, fabrics, 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 social-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.

525 TEXTILES FOR APPAREL 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.

527 GLOBAL ISSUES IN TEXTILES AND APPAREL 3 credits
Prerequisite: Permission of instructor. Examines the global structure and scope of the textile and apparel industries emphasizing an economic perspective.

531 PROFESSIONAL PRESENTATION SKILLS IN FAMILY & CONSUMER SCIENCES 3 credits
Prerequisite: Permission of instructor. Emphasis on development of abilities and strengths in coordination of equipment, materials, motion, speech, and presentation delivery relating to the classroom from Family and Consumer Sciences.

536 TEXTILE CONSERVATION 3 credits
Prerequisite: Permission of instructor. Principles and practices of textile conservation with emphasis on procedures appropriate for collectors and small historical agencies.

538 HISTORIC COSTUME 3 credits
Study of western costume and textiles from antiquity to 1830, with emphasis on social-cultural and fashion.

539 FAMILY CRISIS 3 credits
Prerequisite: Permission of instructor. Study of western fashion, textiles, and designers from the eighteenth century to present, with emphasis on social-cultural influences.

540 FAMILY CRISIS 3 credits
Study of family stress and crisis including internal and external variables and their influence on degree of disorganization, coping and recovery. Includes theory, research and application dimensions.

541 FAMILY RELATIONSHIPS IN MIDDLE AND LATER YEARS 3 credits
Study of family patterns and problems during middle and later years of life with emphasis on psychological and biological changes and economic and social adequacy. Research and trends in gerontology.

542 HUMAN SEXUALITY 3 credits
Prerequisite: Permission of instructor. Introduction to problems and values. Emphasis on the role of values in intimate relationships, the diverse dimensions of sexual responsibility.

546 CULTURE, ETHNICITY AND THE FAMILY 3 credits
Prerequisite: Permission of instructor. Study of the role of culture and ethnicity in adaptation of the family system to environment. Program applications considered. Online section available.

548 BEFORE AND AFTER SCHOOL CHILD CARE 2 credits
Study of the development, implementation and evaluation of school-age child-care programs for before and after school and vacation periods.

550 FLAT PATTERN DESIGN 3 credits
Prerequisite: Permission of instructor. Theory and experience in clothing design using flat pattern techniques.

560 ORGANIZATION AND SUPERVISION OF CHILD-CARE CENTERS 3 credits
Theory, principles and procedures involved in establishing and operating centers for infants, toddlers, preschool and school-age children.

561 CASE MANAGEMENT FOR CHILDREN AND FAMILIES I 3 credits
Provides an overview of Case Management basics in a multi-systems collaborative context. Includes values, goals, state and service systems, and service coordination.

562 CASE MANAGEMENT FOR CHILDREN AND FAMILIES II 3 credits
Prerequisite: 561. Provides in-depth exploration of Case Management principles and practice. Emphasis on process and functions, assessment, cross-service system planning and coordination, advocacy, and cultural diversity.

585 SEMINAR IN FAMILY AND CONSUMER SCIENCES 1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.

590 WORKSHOP IN FAMILY AND CONSUMER SCIENCES 1-3 credits
Investigation on current issue or topic in selected areas of family and consumer sciences. May give credit for one or more courses or for an on-campus full-time group meeting.

591 CAREER-TECHNICAL FCS INSTRUCTIONAL STRATEGIES 3 credits
Prerequisite: senior standing or permission. Organization of Career-Tech FCS and Consumer Sciences program. Design of public school grades 4-12. Emphasis on strategies, coordination, job certification and student organizations, and program planning.

594 PRACTICUM IN PARENT AND FAMILY EDUCATION 3 credits
Prerequisite: 596, 603. 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.

596 PARENT EDUCATION 3 credits
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.

598 STUDENT TEACHING SEMINAR 1 credit
Corequisite: 5500:696. Seminar for students currently enrolled in Family and Consumer Sciences student teaching. Emphasis on block and lesson plan development, PRAXIS III, professional development, and student teacher reflections.

602 FAMILY IN LIFE-SPAN PERSPECTIVE 3 credits
Study of individual and family development across life span. Emphasis on adjustment patterns and intrapersonal, interpersonal and intracultural implications for education theory research and social policy.

604 ORIENTATION TO GRADUATE STUDIES IN FAMILY AND CONSUMER SCIENCES 3 credits
Introduction to the concepts and processes necessary for graduate study in the interdisciplinary field of family and consumer sciences.

605 DEVELOPMENTAL PARENT-CHILD INTERACTIONS 3 credits
Prerequisite: Permission of instructor. Study of reciprocal interactions between parent and child from birth to adolescence. Consideration of cross-cultural studies, historical and societal influences, and various family characteristics and structures. Online course.

607 FAMILY DYNAMICS 3 credits
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.

610 CHILD DEVELOPMENT THEORIES 3 credits
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.

631 PROBLEMS IN DESIGN 1-3 credits
(May be repeated, but no more than 6 credits will apply to M. A.) Prerequisite: written propos-
als approved by faculty advisor. Individual solution of a specific design problem within the stu-
dent's area of interest, with emphasis on materials, techniques, and interior specialization.

634 MATERIAL CULTURE STUDIES 3 credits
Methods of studying clothing, textiles, and interiors from a cultural and historical perspective.

639 THEORIES OF FASHION 3 credits
In-depth analysis of the theories underlying fashion and evaluation of current research related to the study of fashion.

652 PROFESSIONAL PRESENTATION IN FAMILY AND CONSUMER SCIENCES 3 credits
Develops effective family and consumer sciences professional presentation skills. Includes review of visual aids, presentation software, and online presentations. Focuses on visuals, display, demonstrations, public relations materials, user manuals, conference manage-
ment, 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 five. Implications for guidance and education.

677 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 con-
ceptual 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, ethical considerations, and publication.

688 PRACTICUM IN FAMILY AND CONSUMER SCIENCES 3 credits
Prerequisite: permission of advisor/instructor. A minimum of 150 hours of supervised experi-
ence in an approved community setting to acquire skills related to area of specialization.

691 RESEARCH METHODS 3 credits
Prerequisite: permission of thesis advisor. Supervised reading and research related to approved thesis 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 project which makes a significant contribution to the field and may lead to publication.

696 INDIVIDUAL INVESTIGATION IN FAMILY AND CONSUMER SCIENCES 1-3 credits
Prerequisite: permission of advisor. Individual investigation and analysis of a specific topic in student's area of specialization directed by a faculty advisor.

697 INDIVIDUAL INVESTIGATION IN FAMILY DEVELOPMENT 1-3 credits
Prerequisite: permission of graduate advisor only. Individual pursuit and analysis in specific area of student's interest and design under direction of faculty advisor.

698 INDIVIDUAL INVESTIGATION IN CHILD DEVELOPMENT 1-3 credits
Prerequisite: permission of graduate advisor only. Individual pursuit and analysis in specific area of student's interest and design under direction of faculty advisor.

699 MASTER'S THESIS 5 credits
Prerequisite: permission of advisor. Supervised research in a specialized area of family and consumer sciences which makes a contribution to the field and may lead to publication.

MUSIC

525 MUSIC TEACHING METHODOLOGIES FOR GRADUATE STUDENTS 2 credits
Bolstering the technical and pedagogical skills needed for 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 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 lit-ature history. Review of music history for graduate students. Covers the period from antiquity to the present. Both reading and listening assignments will be required.

532 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS 2 credits
To upgrade perusal of literature for instruction in percussion education. Emphasis on research, literature, performance, and techniques from elementary through secondary levels.

551 INTRODUCTION TO MUSICOLOGY 2 credits
Prerequisite: 592. Composition of musicology: aesthetics; theory of music theory; historical musicology.

553 MUSIC SOFTWARE SURVEY AND USE 2 credits
Prerequisite: 322 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 a programmer.

555 ADVANCED CONDUCTION: ORCHESTRAL 2 credits (30 clinical hours)
Prerequisites: 361 and 442 or permission. Bassoon techniques and problems relating to practice, reading and preparation of scores; organization of ensembles; programming; conducting large scale ensembles; and learning orchestral techniques and instrumentation.

556 ADVANCED CONDUCTION: CHORAL 2 credits
Prerequisite: 361 or equivalent. Conduction techniques to the choral ensemble, including leadership, error 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 cello and bass from violin and viola, methods of bowing, sound production and coloring are closely relat-
ed. Application of the instruments to solo, chamber and orchestral playing.
657 GUITAR PEDAGOGY 2 credits
Prerequisite: permission of instructor. A systematic analysis of prevailing schools of guitar pedagogy, sound production psychology, method books and special problems in teaching addressed.

658 GUITAR ARRANGING 2 credits
Prerequisite: permission of instructor. After comparative analyses of selected examples, study make original solo guitar arrangements of works written for other solo instruments ensembles.

659 HISTORY AND LITERATURE OF THE GUITAR AND LUTE 2 credits
Prerequisite: permission of instructor. Study of plucked, fretted, string instruments from the 14th Century to the present; construction, notation, literature and performance practices. Modern editions and recordings evaluated.

570 STUDIES IN CHORAL LITERATURE I: MEDIEVAL-RENAISSANCE 2 credits
A survey of choral repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

571 STUDIES IN CHORAL LITERATURE II: BAROQUE 2 credits
A study of the repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

572 STUDIES IN CHORAL LITERATURE III: CLASSIC-ROMANTIC 2 credits
A study of the repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

573 STUDIES IN CHORAL LITERATURE IV: THE 20TH CENTURY 2 credits
A study of the repertoire in terms of general structure, character, voicing, notation, pitch, ornamentation, improvisation, and interpretation of dynamics, rhythm, articulation, and tempo.

574 INTEGRATIVE CONDUCTING WORKSHOP 2 credits
A practical, comprehensive, reflective rehearsal which respond to the needs of the singers while maintaining stylistic integrity in executing the music.

590 WORKSHOP IN MUSIC 1-3 credits
Prerequisite: permission of instructor. Investigation of topics not offered in regular curriculum. Graduate student must fulfill additional requirements.

601 CHORAL LITERATURE 2 credits
Prerequisite: permission of instructor. Study in depth of style, structure, technical demands, role and aspects of the conductor, and special performance problems. Taught in concert, opera, and chamber music.

604 DEVELOPMENT OF OPERA 2 credits
Prerequisite: permission of instructor. Growth and development of opera from 1600 to the present. Includes detailed examination of stylistic and structural changes as well as performance prac-

609 PEDAGOGY OF JAZZ IMPROVISATION 3 credits
A detailed study of the methods and materials as they relate to the teaching of jazz improvisation.

611 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION 3 credits
A study of the basic historical, philosophical, sociological, and psychological concepts in the context of music education.

612 PRACTICES AND TRENDS IN MUSIC EDUCATION 3 credits
A study of the history of practices and trends in American music education.

613 INFORMATIONAL PROGRAMMING IN MUSIC FOR THE MICROCOMPUTER 3 credits
Prerequisite: 553. Introduction to programming languages for the microcomputer including BASIC, Pascal and Assembler. Programming will be directed towards music educational concepts.

614 MEASUREMENT AND EVALUATION IN MUSIC 3 credits
A study of measurement and evaluation techniques and their application in music education.

615 MUSICAL STYLES AND ANALYSIS I 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from period of Gregorian chant through music of Palestrina and others of late Renaissance.

616 MUSICAL STYLES AND ANALYSIS II 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from Monteverdi through early Beethoven.

617 MUSICAL STYLES AND ANALYSIS III 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from period of late Beethoven through Mahler and Strauss.

618 MUSICAL STYLES AND ANALYSIS IV 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music in 20th Century.

621 MUSIC HISTORY SURVEY: MIDDLE AGES AND RENAISSANCE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music of Middle Ages and Renaissance. Research and writing in areas of special interest.

622 MUSIC HISTORY SURVEY: BAROQUE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Baroque music; study in depth of specific examples, from recordings, scores and live performances; continuation and synthesis of approaches normal to study of music history; selected readings related to each student’s particular fields of interest; project papers.

623 MUSIC HISTORY SURVEY: CLASSIC AND ROMANTIC 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of classic and romantic music; study in depth of specific examples, through recordings, scores and live performances; discontinuation and synthesis of approach normal to study of music history; selected readings related to each student’s particular fields of interest; project papers.

624 MUSIC HISTORY SURVEY: MUSIC SINCE 1900 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of music since 1900; study in depth of specific examples through recordings and live performances; continuation and synthesis of approaches normal to study of music history; selected readings and project papers.

625 GRADUATE BIBLIOGRAPHY AND RESEARCH IN MUSIC 2 credits
Prerequisite: graduate degree of equivalent. Examination of all types of published music materials; research methods for thesis preparation and professional publishing; field trips to music libraries, computerized music databases.

627 COMPUTER STUDIO DESIGN 2 credits
The design and maintenance of a computer lab. Emphasis on hardware and software setup and troubleshooting, and minimize maintenance.

630 TEACHING AND LITERATURE: BRASS INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in brass teaching techniques and appropriate literature.

631 TEACHING AND LITERATURE: WOODWIND INSTRUMENTS 2 credits
Prerequisite: permission of instructor. To delineate and clarify contemporary techniques of woodwind pedagogy and to develop a comprehensive understanding of woodwind literature.

633 TEACHING AND LITERATURE: PIANO AND HARPSICHORD 2 credits
Prerequisite: permission of instructor. The examination of piano and harpsichord literature in historically chronological order with special attention to its pedagogical value and stylistic dif-

634 TEACHING AND LITERATURE: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in string teaching techniques and appropriate literature.

640.1,2,3 ADVANCED ACCOMPANYING I, II, III, IV 1 credit each
Prerequisite: Graduate standing in keyboard performance and/or accompanying or the per-

653 ELECTRONIC MUSIC 3 credits
The theory and practice of electronic music composition. Developing a practical understand-

655 VOCAL PEDAGOGY 2 credits
Prerequisite: permission. In-depth study of subjects dealing with teaching of voice: physiology, pedagogy, history, principles governing vocal production and application of vocal pedagogy.

666 ADVANCED SONG LITERATURE I 2 credits
Prerequisite: permission of instructor. Systematic study of French and German song literature presented chronologically. Includes study of stylistic compositional characteristics and repertories of major composers of song literature.

667 ADVANCED SONG LITERATURE II 2 credits
Prerequisite: permission of instructor. Systematic study of American, British, and Italian song literature presented chronologically. Includes study of stylistic compositional characteristics and repertoire of major composers of song literature.

675 SEMINAR IN MUSIC EDUCATION 1-3 credits
Prerequisite: permission of instructor. Investigation of topics not offered in regular curriculum. May be repeated for a total of 6 credits. Intensive examination of special topics in the field of music education.

697 ADVANCED PROBLEMS IN MUSIC 1-3 credits
Prerequisite: permission of graduate advisor. Research related to the completion of the mas-

699 MASTERS THESIS 4-6 credits
Prerequisite: permission of graduate advisor. Research related to the completion of the mas-

MUSICAL ORGANIZATIONS 7510:

602 Akron Symphony Chorus 1 credit
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.

603 University Symphony Orchestra 1 credit
Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special University appearances. Major conducted ensemble.

604 SYMPHONIC BAND 1 credit
Membership by audition. The University Symphonic Band is the most select band at the Uni-

606 BRASS ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for brass ensemble from all peri-

607 STRING ENSEMBLE 1 credit
Membership by audition. In-depth study and performance of chamber music literature with special emphasis on string quartet and piano trio.

608 OPERALYTIC THEATER WORKSHOP 1 credit
Membership by audition. Musical and dramatic group study of excerpts from operatic reper-

609 PERCUSSION ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for各种 percussion groups; develops skill in ensemble performance.

610 WOODWIND ENSEMBLE 1 credit
Membership by audition. Study and performance of woodwind literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.

614 KEYBOARD ENSEMBLE 1 credit
In-depth study of ensemble playing. Required for keyboard assistantship recipients.

615 JAZZ ENSEMBLE 1 credit
Membership by audition. Provides experience in jazz ensemble performance. A student is assumed to have knowledge of nutriments of music and some experience in jazz ensemble performance.

618 SMALL ENSEMBLE-MIXED 1 credit
Chamber Ensemble, Baroque Ensemble and Contemporary Music Ensemble. Each is a group of diverse instruments which rehearse and performs a selected body of music.

620 CONCERT CHOIR 1 credit
Membership by audition. Highly select mixed choir. Performs classical literature from all peri-

621 UNIVERSITY SINGERS 1 credit
Membership by audition. Mixed ensemble devoted to performance of a wide variety of choral literature from classical to popular. Majors enrolled as ensemble for major majors.

625 CONCERT BAND 1 credit
Membership by Audition. Performs the finest in concert band literature available for concert performance. Major conducted ensemble.

626 MARCHING BAND 1 credit
This organization is noted for its high energy performances a University football games. Enroll-

Graduate Courses 119
APPLIED MUSIC 7520:

521-569 APPLIED MUSIC FOR MUSIC MAJORS 2 or 4 credits each
The following courses are intended for a student majoring in one of the programs in the Department of Music. Courses levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.) A student may progress up one level by successfully 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 OBEO OR ENGLISH HORN
538 CLARINET OR BASS CLARINET
539 BASSOON OR CONTRABASSOON
540 SAXOPHONE
541 HARPSCORD

542 PRIVATE LESSONS IN MUSIC COMPOSITION 2-4 credits each
(May be repeated) Prerequisites: 7500:252 and permission of instructor; 7500:452 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 OBEO OR ENGLISH HORN
638 CLARINET OR BASS CLARINET
639 BASSOON OR CONTRABASSOON
640 SAXOPHONE
641 HARPSCORD

642 APPLIED COMPOSITION

661 JAZZ PERCUSSION

662 JAZZ GUITAR 2-4 credits
(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
**THEATRE ORGANIZATIONS**

601 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY (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. 1-2 credits

605 PERFORMANCE PRACTICUM (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. Credited and work supervised by faculty and project supervisor. 1-2 credits

**ARTS ADMINISTRATION**

600 RESEARCH AND WRITING TECHNIQUES 3 credits Exploration of basic research tools and methods appropriate to the discipline, including utilization of the computer. Guidelines for writing thesis.

603 SPECIAL TOPICS IN ARTS ADMINISTRATION 1-4 credits (May be repeated as different subject areas are covered, but no more than 12 credits may be applied toward MA degree). The arts and experimental courses in arts administration, supplementing those listed in the General Bulletin.

605 COLLOQUIUM ON THE ARTS 3 credits A brief exploration of the musical and performing art forms and organizations examined in relationship to the business management of arts. Team-taught.

606 AUDIENCE DEVELOPMENT 3 credits Developing audiences for the Arts through Arts marketing techniques, including season and single ticket campaigns, promotional strategies, media/public relations, market research, and telemarketing.

606 PRINCIPLES OF ARTS ADMINISTRATION 3 credits Principles and practices in non-profit art management, including organizational structure, function of boards, personnel and volunteer management, and public policy for the arts.

602 FOUNDATION AND GRANTSMANSHIP IN THE ARTS 3 credits Techniques and execution of a development campaign for individuals, corporations, foundations, federal and state grants, and endowment, including research and proposal writing.

609 ARTS ADMINISTRATION POLICIES AND PRACTICES 3 credits Financial management of the arts, facilities management, presenting performances, ticketing, and unique management problems in non-profit theatre companies, dance companies, orchestras, symphony bands, and museums.

609 LEGAL ASPECTS OF ARTS ADMINISTRATORS 3 credits Legal responsibilities and liabilities of an arts organization, contracts, copyright law, insurance, taxation, artists’ rights, personnel law, and labor law.

609 INTERNSHIP 3-6 credits Prerequisite: permission. Faculty supervised work experience in which student participates in an arts management, performance, or technical situation with a selected cultural organization.

609 MASTER’S THESIS 1-6 credits Prerequisite: permission of graduate coordinator of arts administration program. Research related to completion of master’s thesis.

**DANCE PERFORMANCE**

590 WORKSHOP IN DANCE 1-3 credits Prerequisite: Permission. (May be repeated for a total of eight credits). Group study/projects investigating a particular field of dance not covered by other courses.

**Engineering**

**GENERAL ENGINEERING**

4100:

600 CURRICULAR PRACTICAL TRAINING 3-9 credits Prerequisite: Student must have completed at least one academic year in the program. Exposure to engineering research practice in industry or federal labs. Credits equivalent to preliminary inquiry, master research, or master project. Engineering dean approval.

697 ENGINEERING MANAGEMENT REPORT 2 credits Prerequisite: permission. A relevant problem in engineering management is studied in depth. Final report must be approved by advisor and advisory committee.

**CHEMICAL ENGINEERING**

4200:

521 FUNDAMENTALS OF MULTIPHASE TRANSPORT PHENOMENA 3 credits Prerequisite: Permission. Major topics to be covered include two-phase and interphase transport phenomena, transport phenomena in multiphase fluids, transport in porous media, transport in gas/liquid pipe flows, computational fluid dynamics of multiphase systems, and case studies.

535 PROCESS ANALYSIS AND CONTROL 3 credits This course is intended for a student holding a B.Eng in a discipline other than engineering. Emphasis is placed on simple and chemical processes and design of appropriate control systems.

541 PROCESS DESIGN I 3 credits Application of chemical engineering fundamentals to the design of a multi-unit process. Emphasis is placed on use of process simulators. Advanced equipment design, design, oral, written communication skills, teamwork.

561 SOLIDS PROCESSING 3 credits Prerequisite: Permission. Comprehensive problems in sedimentation, fluidization, drying, and other operations involving mechanisms of particulate solids in solid and gas continua.

563 POLLUTION CONTROL 3 credits Air and water pollution sources and problems. Engineering aspects and methodology.

566 DIGITIZED DATA AND SIMULATION 3 credits Prerequisite: Permission. Data acquisition and analysis by digital devices, digital control applications and design.

570 ELECTROCHEMICAL ENGINEERING 3 credits Chemical engineering principles are applied to the study of electrode processes and to the design of electrochemical reactors. Topics include electrochemical thermodynamics, cell polarizations, Faraday’s Laws, electrode kinetics, transport processes in electrochemical systems, current distributions, reactor design, experimental methods, commercial processes, and batteries and fuel cells.
3C8 SEPARATION PROCESSES IN BIOCHEMICAL ENGINEERING
Introduction to the separation and purification techniques pertinent to bioprocesses, with emphasis on engineering considerations for large-scale operations.

3C0 TRANSPORT PHENOMENA
Prerequisite: Permission. Systematic presentation of conservation of momentum, energy and mass at microscopic and macroscopic levels in conjunction with illustrative examples and analogies.

3C5 CHEMICAL REACTION ENGINEERING
Prerequisite: Permission. Kinetics of homogeneous and heterogeneous systems. Reactor design for ideal and non-ideal flow systems.

3C2 CLASSICAL THERMODYNAMICS
Discussion of laws of thermodynamics and their application. Predication and correlation of thermodynamic data. Phase and reaction equilibria.

3C1 SURFACE SCIENCE IN CHEMICAL ENGINEERING
Prerequisite: permission of instructor. This course emphasizes the basics of surface science (surface energy, wetting, adhesion); surface characterization techniques (contact angle, ellipsometry, XPS); and surface engineering methods (SAMs, soft lithography).

3C9 BIOCHEMICAL ENGINEERING
Application of chemical engineering principles to biological processes which produce desirable compounds or destroy unwanted or hazardous substances.

3C5 PHYSICAL PROPERTIES OF STRUCTURAL BIOPOLYMERS
Prerequisite: permission of instructor. Examination of the physical properties of biological materials, including structural units and their model to a natural design of biomaterials.

3C0 CHEMICAL PROCESS DYNAMICS
Prerequisite: 600. Development and solutions of mathematical models for chemical processes based on transport phenomena principles, population balance methods, and systems analysis.

3C9 CHEMICAL ENGINEERING ANALYSIS
Multi-scale models in transport processes, chemical kinetics and control systems. Solution techniques for these problems and their practical significances are stressed. Heatproof drafts will be given for necessary theory developments.

3C2 NONLINEAR DYNAMICS AND CHAOS
Description and analysis of the complex behavior exhibited by nonlinear equations. Emphasis is on the numerical methods to quantify chaos.

3C2 COULLOIDS—PRINCIPLES AND PRACTICE
Prerequisite: permission of instructor. Colloid science and applications in chemical and bio- materials engineering; disperse systems, interfacial forces, surface tension, interfacial thermodynamics, colloid applications, biopolymers applications and characterization techniques.

3C9 APPLIED SURFACANT SCIENCE
Prerequisite: 610. The basics of surfactant science, the chemical engineering application of surfactants including use in polymerization media, separations, emulsion, microemulsion, and a toxicity modifier.

3C9 ADVANCED POLYMER ENGINEERING
Prerequisite: 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer rheology.

3C0 ADVANCED PLANT DESIGN
Prerequisite: permission. Typical treatment of process and equipment design, scale-up, optimization, process synthesis, process economics, and problem solving.

3C9 RENEWABLE RESOURCES FOR ENVIRONMENTALLY BENIGN CHE PRODUCTION
Prerequisite: permission of instructor. Focus is on chemical and biochemical processing technologies for the preparation of fuels, polymer materials, and specialty chemicals from renewable resources.

3C0 HETEROGENEOUS CATALYSIS
Kinetics and mechanisms of heterogeneous and homogeneous catalytic reactions; characterization and design of heterogeneous catalysts.

3C0 TOPICS IN CHEMICAL ENGINEERING
Prerequisite: (May be repeated for a total of six credits.) Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synfuel processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques.

3C2 CHEMICAL ENGINEERING REPORT
Prerequisite: permission of instructor. A relevant problem in chemical engineering is studied. Required course for students electing non-thesis option. Final report must be approved by advisor and advisory committee.

3C0 MASTER'S THESIS
(May be repeated to a maximum of six credits.) For properly qualified candidate for master's degree. Supervised original research in specific area of chemical engineering selected on basis of availability of staff and facilities.

3C9 ADVANCED TRANSPORT PHENOMENA
Prerequisite: 600. Advanced theory of transport phenomena such as applied tensor analysis, constitutive equations, multicomponent reactive transport and multiphase transport. Illustrative practical examples presented.

3C0 MULTIPHASE TRANSPORT PHENOMENA
Prerequisite: 600. General transport theory, kinematics, Cauchy's lemmas and thermodynamics; boundary conditions are developed following the theory of volume averaging. The single phase equations are then volume averaged to obtain the multiphase equations of change. The techniques of using these equations and their practical significance is also covered.

3C0 ADVANCED REACTION ENGINEERING
Prerequisite: 605. Kinetics of heterogeneous systems, steady and unsteady state mathemat- ical modeling of chemical reactors, fluidization and additional topics drawn from current literature.

3C0 ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS
Prerequisite: 610. Advanced topics in thermodynamics, including phase and reaction equilibria at high pressures, phase equilibrium for multiphase systems, reaction equilibrium in multi- phase systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium in thermodynamics; current topics from literature.

3C0 MOMENTUM TRANSPORT
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

3C0 NON-NEWTONIAN FLUID MECHANICS

3C0 ENERGY TRANSPORT
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer start- ing with equations of continuity, motion and energy.

3C0 TOPICS IN ENERGY TRANSPORT
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat trans- fer problems found in chemical engineering.

3C0 MASS TRANSFER
Prerequisite: 600. Theory of mass transfer with applications to absorption, adsorption, distilla- tion and heterogeneous catalysis.

3C0 PROCESS CONTROL
Prerequisite: 630. Introduction to modern control theory of chemical processes including cas- cade control, multivariable control and data sampled control.

3C0 POLYMER ENGINEERING TOPICS
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiphase flow, artificial fiber engi- neering, etc.

3C0 CHEMICAL PROCESSING OF ADVANCED MATERIALS
Prerequisite: 605. Advanced materials such as ceramics, optical materials, sensors, catalysts; application of reaction engineering to solid and ceramic processing, chemical processing, modified chem- ical vapor deposition.

3C0 ADVANCED CATALYST DESIGN
Prerequisite: 605. Development of catalysis theory and its application to the design of practi- cally useful catalysts.

3C0 ADVANCED POLLUTION CONTROL
Prerequisite: Permission. Analysis of current environmental research in analytical instrument- ing, air and water, pollution control, hazardous waste treatment, and nuclear waste dispos- al.

3C2 ADVANCED BIOCATALYSIS AND BIOTRANSFORMATIONS
Prerequisite: 3150:401/501 or permission of instructor. Includes: (a) high performance enzymes via chemical modification, recombinant technology, evolution, extremophiles; (b) applications of enzymes in biosynthesis, bioprocessing, biosensoring, and bioimmobilization.

3C3 CHEMICAL ENGINEERING SEMINAR
(1 credit) (May be repeated for a maximum of six credits.) Prerequisite: Permission of instructor. Advanced level coverage of specialized chemical engineering topics. Intended for students seeking a Ph.D. in engineering.

3C2 ADVANCED RESEARCH TECHNIQUES FOR ENGINEERING
(3 credits) Prerequisite: permission for a total of six credits.) Prerequisite: permission of instructor. Advanced projects, readings and other studies in various areas of chemical engineering. Intended for student seeking Ph.D. in engineering.

3C2 PRELIMINARY RESEARCH
(1-15 credits.) Prerequisite: approval of dissertation director. Preliminary investigations prior to the submission of a dissertation proposal to the Interdisciplinary Doctoral Committee.

3C2 DOCTORAL DISSERTATION
(1-15 credits) May be taken more than once.) Prerequisite: acceptance of research proposal by the inter- disciplinary Doctoral Committee and approval of the dissertation director. Original research by the doctoral student.

3C0 CIVIL ENGINEERING

5C1 DESIGN OF EARTH STRUCTURES
Prerequisite: Permission. Design of earth structures; dams, highway fills, offenders, etc. Emphasis on construction techniques, quality control, embankment analysis, instrumentation, foundation soil stabilization, seepage analysis and control. Design problem. Graduate students will perform advanced analysis and design.

3C2 SOIL AND ROCK EXPLORATION
Prerequisite: Permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radioactive measurements. Stereo photo interpretation.

3C3 CHEMISTRY FOR ENVIRONMENTAL ENGINEERS
Prerequisite: One year of college chemistry. General, physical, organic, biochemistry, equilibrium, and colloid chemistry concepts applied to environmental engineering. Concepts are integrated in water and wastewater, with design parameters emphasized.

3C2 ENVIRONMENTAL ENGINEERING DESIGN
An introduction to the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized.

3C2 WATER QUALITY MODELING AND MANAGEMENT
Prerequisite: permission. Analysis and simulation of the physical, chemical and biochemical processes affecting stream quality. Development of management strategies based upon the application of water quality modeling techniques to environmental systems.

3C2 HAZARDOUS AND SOLID WASTES
Prerequisite: Permission of instructor. Hazardous and solid waste quantities, properties and sources are presented. Handling, processing, storage and disposal methods are discussed with non-technical constraints outlined.

3C2 APPLIED HYDRAULICS
Review of design principles; urban hydraulics, stream channel mechanics, sedimentation, coastal engineering.

3C2 COMPUTER METHODS OF STRUCTURAL ANALYSIS
Prerequisite: Computer programming. Finite element software, interactive graphics; beam stiffness concepts and matrix formulation; simple and complex structural systems modeling; vibration analysis.

3C2 OPTIMUM STRUCTURAL DESIGN
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as viscoelasticity and of layered systems as applied to pavements. Pave- ment materials characterization; pavement design, pavement restoration for rigid and flexible pavements.

3C2 PAVEMENT ENGINEERING
Prerequisite: permission. Theory of pavement engineering, asphalt materials characterization; pavement design, pavement restoration for rigid and flexible pavements.
565 TRAFFIC ENGINEERING
3 credits
Vehicle and urban travel characteristics, traffic flow theory, traffic studies, accidents and safety, development of traffic signal design, traffic control and transportation administration.

567 ADVANCED HIGHWAY DESIGN
3 credits
Prerequisite: 564. Autocad, or permission. Computer-aided geometric design of highways including survey data input, digital terrain modeling, cross-section templates, horizontal and vertical roadway design, earthwork computations, and advanced topics.

568 HIGHWAY MATERIALS
3 credits
Prerequisite: Permission. Properties of aggregates, manufacture and properties of portland cement concrete, properties of asphaltic materials, design and testing of hot mix asphalt pavement mixes and of surface treatments. Laboratory preparation of specimens and determination of properties. Graduate student required. Graduate students will need to perform an additional eight-hour asphalt laboratory (Abson recovery of asphalt from solution) and to prepare a paper on a highway materials topic.

574 UNDERGROUND CONSTRUCTION
2 credits
Design of practical techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.

604 DYNAMICS OF STRUCTURES
3 credits

605 STRUCTURAL STABILITY
3 credits

606 ENERGY METHODS AND ELASTICITY
3 credits

607 PRESTRESSED CONCRETE
3 credits
Buckling of slabs. Design of double-tie roof girder; shear; development length; columns; plate; design of highway bridge girder; pretensioned, post-tensioned, continuous girders; corbels; column-anchorage forces, connections.

608 MULTISTORY BUILDING DESIGN
3 credits
Floor systems: staggered truss system; braced frame design; unbraced frame design; drift indices; monocoque (tube and plate) systems; earthquake design; fire protection. Analysis by STAAD.

609 FINITE ELEMENT ANALYSIS I
3 credits
Prerequisite: 504 or equivalent. Introductory development of finite element method as applied to various topics from continuum mechanics. Such areas as plane, axisymmetric and 3-D stress analysis; conduction, fluid mechanics; transient problems an geometric and material nonlinearities.

610 COMPOSITE MATERIALS IN CIVIL INFRASTRUCTURE
3 credits
Prerequisite: 554 or equivalent. Constituent materials; manufacturing processes; panel properties by micro/macromechanics; simplified analysis of composite beams; columns; and applications to highway bridges; composites in concrete and wood structures.

611 FUNDAMENTALS OF SOIL BEHAVIOR
2 credits
In-depth examination of structure and fundamental physico-chemical and mechanical properties of engineering soils viewed as particulate matter.

612 ADVANCED SOIL MECHANICS
3 credits
Study of mechanics of behavior of soil as continuum. Principles of stress, strain, deformation, shear stress and pore water pressure as applied to mechanical behavior of soil mass.

613 ADVANCED GEOTECHNICAL TESTING
3 credits
Prerequisites: 519, 612. Theory and practice of static and dynamic in situ and laboratory soil testing. Testing procedures, applicability, limitations. General evaluation of geotechnical parameters for routine and special site conditions. One lecture, two laboratories per week.

614 FOUNDATION ENGINEERING I
3 credits
Prerequisites: Permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Pile driving and load test procedures and analysis. Theory and design of earth-retaining structures including retaining walls, teeblocks and bulwarks.

615 FOUNDATION ENGINEERING II
3 credits
Prerequisite: 514 or permission. Soil-structure interaction theory and applications. Behavior of ground structures including conduits, tunnels and shafts. Advanced foundation construction methods problems including dewatering, soil stabilization, underpinning and caisson. Slope stability analysis.

616 SOIL IMPROVEMENT
3 credits
Analysis of biodegradation, preconcentration with vertical drains, blasting, vibrocompaction, injection and grouting, thermal methods, electro-osmosis, soil reinforcement, case studies.

617 NUMERICAL METHODS IN GEOTECHNICAL ENGINEERING
3 credits
Steady-state and transient flow through soils, consolidation, soil-structure interaction, piling, stress-deformation analysis of earth structures.

618 ROCK MECHANICS
3 credits
Prerequisite: 554 or permission. Mechanical nature of rocks; linear elasticity and application to rock mechanics; inelastic behavior of rocks; time dependence and effects of pore pressure; experimental characterization of rock properties; failure theory and crack propagation.

620 SANITARY ENGINEERING PROBLEMS
2 credits
Analysis and solution of both laboratory methods and theory to solution of sanitary engineering problems such as involving water pollution, storm stream generation, special industrial wastes, droughts and other environmental problems.

621 ENVIRONMENTAL ENGINEERING PRINCIPLES
4 credits
Coursework: 523. Provide the basic principles of chemical reaction engineering, microbiology, environmental regulations, and contaminant migration required for the understanding and solving environmental problems.

622 AQUATIC CHEMISTRY
3 credits
Prerequisites: Permission. Quantitative treatment of phenomena that govern the chemistry of aquatic environments. Emphasis on the application of mass balance concepts to chemical oxygen demand, solubility, and oxidation-reduction reactions.

623 PHYSICAL/CHEMICAL TREATMENT PROCESSES
3 credits
Prerequisite or corequisite: 621. Theory and current research associated with physical/chemical processes, the impact on design-coagulation/flocculation, sedimentation, filtration, absorption processes emphasized.

624 BIOLOGICAL WASTEWATER TREATMENT PROCESSES
3 credits
Prerequisite or corequisite: 621. Theory, current research associated with biological processes, related physical/chemical processes, the impact on design-activated sludge, fixed film processes, gas transfer, sludge stabilization, sludge dewatering processes emphasized.

625 WATER TREATMENT PLANT DESIGN
3 credits
Prerequisite: 623. Design of water treatment plants for potable, industrial and commercial uses. Development of water treatment methods and financing used to design best practical methods in terms of cost-benefits.

626 WASTEWATER TREATMENT PLANT DESIGN
3 credits
Prerequisite: 624. Application of theory and fundamentals to design of wastewater treatment plants. System design methods used for biological and chemical stabilization of wastewater to meet water quality criteria. Economic analyses made to determine best practical designs to be utilized.

627 ENVIRONMENTAL OPERATIONS LABORATORY
2 credits
Prerequisite: Permission of instructor. Conduct of laboratory experiments related to the design and operation of wastewater treatment processes. Experimental design, data collection, analysis and report preparation.

628 ADVANCED CHEMICAL OXIDATION PROCESS
3 credits
Prerequisites: Permission. Qualitative and quantitative treatment of variables that govern processes and chemical reaction and kinetics in water. Emphasis on ozone, hydrogen peroxide, and ultraviolet light (UV).

631 SOIL REMEDIATION
3 credits
Prerequisite: 621 or permission. Provide a thorough understanding of site characterization, traditional soil remediation technologies, as well as present new and emerging remediation technologies.

633 AIR POLLUTION CONTROL
3 credits
Prerequisite: 621 or permission. Introduction to air pollution control philosophies, approaches, regulations, and modeling. Also contains an in-depth evaluation/design approach for the control of particulate matter, SOx and NOx.

640 ADVANCED FLUID MECHANICS
3 credits
Selected topics on principles governing mechanical behavior of materials with respect to elastic, plastic and creep responses, stress rupture, low and high cycle and thermal fatigue. Failure theories and fracture phenomena in brittle and ductile materials. Crack propagation and life prediction of engineering materials.

642 ELASTICITY
3 credits

643 PLASTICITY
3 credits
Prerequisite: 662, 4600:622 or equivalent. Mathematical formulation of constitutive equations with focus on their use in finite element simulation. Isotropy, kinematic hardening, Nonisothermal plasticity. Finite deformations. Anisotropy.

644 ADVANCED TRAFFIC ENGINEERING I
3 credits
Prerequisite: Permission. Highway and parking facility design, transportation planning, highway capacity estimates, signal systems and optimization, incident detection and management, freeway ramp metering, and highway safety.

645 ADVANCED TRAFFIC ENGINEERING II
3 credits
Prerequisite: Permission. Highway and parking facility design, transportation planning, highway capacity estimates, signal systems and optimization, incident detection and management, freeway ramp metering, and highway traffic safety.

646 TRAFFIC DETECTION AND DATA ANALYSIS
3 credits
Prerequisite: Permission. Theory and application of pressure tubes, loop detectors, and imaging sensing, microwave, infrared, ultrasonic, laser detectors, parameter estimation, reliability, and data mining and fusion.

651 ADVANCED ENGINEERING MATERIALS
3 credits
Selected topics on principles governing mechanical behavior of materials with respect to elastic, plastic and creep responses, stress rupture, low and high cycle and thermal fatigue. Failure theories and fracture phenomena in brittle and ductile materials. Crack propagation and life prediction of engineering materials.

652 ELASTICITY
3 credits

653 PLASTICITY
3 credits
Prerequisite: 662, 4600:622 or equivalent. Mathematical formulation of constitutive equations with focus on their use in finite element simulation. Isotropy, kinematic hardening, Nonisothermal plasticity. Finite deformations. Anisotropy.

654 ADVANCED REINFORCED CONCRETE DESIGN
3 credits

655 ADVANCED STEEL DESIGN
3 credits
Properties of steel, fasteners, bearing, friction joints, Gusset plates, bolts in tension, end plates, weld joints, cyclic loads, fatigue analysis, types of detail, torsion, stability design.

656 EXPERIMENTAL METHODS IN STRUCTURAL MECHANICS
3 credits

657 LIMIT ANALYSIS IN STRUCTURAL ENGINEERING
3 credits

658 ADVANCED SEMINAR IN CIVIL ENGINEERING
1-3 credits
Prerequisite: permission. Advanced projects, reading, studies, or experimental in various areas of civil engineering.

659 ENGINEERING REPORT
2 credits
Prerequisite: Permission of advisor. A relevant problem in civil engineering for students electing the non-thesis option. The final engineering report must be approved by the advisor and the advisory committee.

665 MASTER'S RESEARCH
1-6 credits
Prerequisite: Permission of advisor. (May be repeated.) Research on a suitable topic in civil engineering.

667 MASTER'S THESIS
1-6 credits
Prerequisite: Permission. Research and thesis on some suitable topic in civil engineering as approved by department. Defense of thesis is by final examination.

671 EARTHQUAKE ENGINEERING
3 credits
ELECTRICAL ENGINEERING 4400:

541 DIGITAL COMMUNICATION 3 credits
Introduction to digital communication theory and systems; coding of analog and digital information; modulation techniques. Introduction to information theory.

545 WIRELESS COMMUNICATIONS 3 credits
Prerequisites: 541. Theory and analysis of wireless communications, wireless propagation, multiple access, modulation, demodulation, multipath channel characterization, diversity, cellular, and PCS services and standards.

548 OPTICAL COMMUNICATION NETWORKS 3 credits
Optical waveguides and optical integrated components, optical transmitters and receivers, optical communication network design.

553 ANTENNA THEORY 3 credits

555 MICROWAVES 4 credits
Dynamic fields, Maxwell’s equation and wave equations. Field analysis of wave guides, microwave components, techniques and standards.

561 OPTICAL ELECTRONICS AND PHOTONIC DEVICES 3 credits
Lightwave engineering, photonic principles and optical electronic device technology.

572 CONTROL SYSTEMS II 3 credits
State variable analysis, design of control systems. Discrete systems, analysis, digital computer control. Experiments include hybrid, AC control system, digital computer control.

583 POWER ELECTRONICS I 3 credits
Power electronic circuits. Rectifiers, converters, inverters analysis and design.

584 POWER ELECTRONICS LABORATORY AND DESIGN PROJECT 2 credits
Prerequisite: 583 or equivalent. Experiments on different types of power electronic converters: AC/DC, DC/AC, DCCD, and AC/AC. Design project to include design, simulation, building, and testing of a power electronic circuit.

585 ELECTRIC MOTOR DRIVES 3 credits
Application of electric machines, choice of motor for particular drive. Application of power semiconductor circuits in electric machinery.

589 DESIGN OF ELECTRIC AND HYBRID VEHICLES 3 credits

598 SPECIAL TOPICS: ELECTRICAL ENGINEERING 1-3 credits
(May be taken more than once.) Study of special topics in electrical engineering.

641 RANDOM SIGNAL ANALYSIS 3 credits
Analysis and processing of engineering data through application of statistical and probability methods.

642 IMAGING SYSTEM ENGINEERING 3 credits
Prerequisite: 561. Engineering principles of imaging systems, design, analysis, and evaluation of imaging systems, processing techniques, and applications.

643 INFORMATION THEORY AND CODING 3 credits
Prerequisite: 641 or permission. Sources, channels, entropy, mutual information, source coding theory and channel coding. Introduction to rate-distortion theory.

646 DIGITAL SIGNAL PROCESSING 3 credits
Relations between continuous- and discrete-time Fourier expansions. Sampling, aliasing, sampling rate conversion. Operator concepts in signal processing, all-pass systems, FFT, digital filter design.

647 DIGITAL SPECTRAL ANALYSIS AND SIGNAL MODELING 3 credits
Prerequisites: 645 or permission of instructor. Methods and theory of spectral analysis and signal modeling are investigated. Applications of theory include speech processing, optimal filtering, biomedical systems, digital communications.

648 OPTICAL NETWORK ARCHITECTURE 3 credits
Prerequisite: 548. Principles of optical network architecture, analysis, design, control, and fault management.

650 ELECTROMAGNETIC THEORY I 3 credits
Prerequisite: permission of instructor. Electrostatics: uniqueness theorem, boundary-value problems, constructions of Green’s functions. Magnetostatics: energy and momentum, EM potentials, Stratton-Chu formulation, radiation, dyadic Green’s functions.

651 ELECTROMAGNETICS II 3 credits
Prerequisite: 650 or permission of the course instructor. Scattering: TEM waves: guided wave theory; transmission lines, closed-boundary guides and cavities, modal orthogonality and completeness. Green’s function, expansions, and coupling, open-boundary waveguides.

652 COMPUTATIONAL ELECTROMAGNETICS 3 credits
Prerequisite: 650 or permission of the course instructor. Analytic and numerical techniques for electromagnetic fields, conformal mapping, finite difference method, finite element method, and the method of moments.

655 ADVANCED ANTENNA THEORY AND DESIGN 3 credits
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.

666 SIMULATION OF NANOSCALE AND MOLECULAR-SCALE SYSTEMS 3 credits
The course describes modern simulation techniques for the analysis of nanoscale phenomena: molecular dynamics, fast algorithms for multicomputer and multistep simulations, ab initio and semiempirical methods in electronic structure calculation.

673 NONLINEAR CONTROL 3 credits
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, subharmonics, phase plane, conservative systems, Lur’e systems, bifurcation of attractors, and routes to chaos.

674 ADVANCED LINEAR SYSTEM THEORY 3 credits
Prerequisite: 673 or instructor permission. Advance control theory for linear systems. Controllability, observability, minimal realizations of multivariate systems, stability, state variable feedback, estimation, and an introduction to optimal control.

677 OPTIMAL CONTROL I 3 credits
Prerequisite: 674. Formulation of optimization problem; application of variational calculus, maximum principle and optimality principle to control problems. Computational techniques in optimization.

680 DYNAMICS AND CONTROL OF POWER ELECTRONIC CIRCUITS 3 credits
Prerequisites: 583 or equivalent. Analysis of power electronic circuits. Small and large-signal models about the cyclic steady-state. Feedback controls using classical and modern approaches.

686 DYNAMICS OF ELECTRIC MACHINES 3 credits
Prerequisites: graduate status in Electrical Engineering. Voltage and mechanical differential equations of electrical machines, analytical and numerical methods for solution of a system of a machine differential equations.

687 POWER ELECTRONICS II 3 credits
Prerequisite: 583 or equivalent. Effects of the nonidealities of the power circuit components, magnetics, base and gate drives, thyristor commutation circuits, heat transfer and thermal issues. Analysis and design of advanced power circuits.

688 CONTROL OF ELECTRIC MACHINES 3 credits
Prerequisites: graduate student in Electrical Engineering. Elements of control circuits for electric drives, techniques for torque/speed control of electric machines.

699 POWER SEMICONDUCTOR DEVICES 3 credits
Prerequisite: Graduate status in Electrical Engineering. Structure and physics of power semiconductor devices: diodes, BJTs, MOSFETs, thyristors, Power MOS-Bipolar devices (IGT, IGBT). Emphasis on the issues that characterize these devices from the perspective of the power semiconductor devices.

731 SPECIAL PROBLEMS 1-3 credits
(May be taken more than once.) Prerequisite: permission of department chair. For a qualified graduate student. Supervised research or investigation in a major field of training or experience. Credits dependent upon nature and extent of project.

MASTER’S RESEARCH 1-6 credits
Prerequisite: Permission of advisor. (May be repeated.) Research on a suitable topic in electrical engineering culminating in a master’s thesis.

MASTER’S THESIS 1-6 credits
Prerequisite: permission of department chair. Research and thesis on some suitable topic in electrical engineering.

753 TOPICS IN ELECTROMAGNETICS 3 credits
Prerequisite: 651. Introduction to advanced techniques in fields. Topics include applications of Green’s function techniques and related boundary value problems.

772 MODEL REDUCTION TECHNIQUES FOR CONTROL SYSTEMS 3 credits
Prerequisite: 674 or permission of the instructor. Classical, modern, and optimal techniques for computing reduced order models of linear, nonlinear, and infinite dimensional systems. Minimal realizations of multi-variable systems are also considered.

774 ADVANCED LINEAR CONTROL SYSTEMS 3 credits
Prerequisite: 674 and a course in Real Analysis or equivalent. Covers topics related to the design of robust control systems. The synthesis of controllers which yield stable closed-loop systems will be considered. The H-infinity optimality criterion for controller design is included. Special emphasis will be given to the robust stabilization problem and the disturbance attenuation problem.

775 ROBUST CONTROL 3 credits
Prerequisite: 674. Input-output and state-space characterizations of robust control systems, and design techniques based on the algebraic Riccati equation. Decentralized and reliable control design methodologies.

777 OPTIMAL CONTROL II 3 credits
Prerequisite: 677. Advanced state-feedback optimal control. Output-feedback issues, including loop transfer recovery, optimal observer design, reduced-order controllers, frequency weighting, and decentralized control.
**Computer Engineering**

**graduate Courses**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>510</td>
<td>Embedded scientific computing</td>
<td>3</td>
</tr>
<tr>
<td>513</td>
<td>Advanced Seminar (to be taken more than once) Prerequisite: permission of department chair. Advanced level coverage of specialized topics. For student seeking Ph.D. in engineering.</td>
<td>3</td>
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<tr>
<td>521</td>
<td>Computer System Design</td>
<td>3</td>
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<tr>
<td>522</td>
<td>Embedded systems interfacing Prerequisite: Permission by instructor. Microcontroller structures and embedded peripherals. Introduction to physical environments. Software access to peripherals, timers, AD/DA converters, Synchronous and asynchronous communications. Interrupts. Real-time operating systems.</td>
<td>3</td>
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<tr>
<td>523</td>
<td>Programmable logic</td>
<td>3</td>
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<td>527</td>
<td>Networks</td>
<td>3</td>
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<td>540</td>
<td>Digital Signal Processing</td>
<td>3</td>
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<tr>
<td>562</td>
<td>Analog integrated circuit design</td>
<td>3</td>
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<td>567</td>
<td>VLSI Circuits and Systems</td>
<td>3</td>
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<tr>
<td>568</td>
<td>Special topics: Computer Engineering</td>
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<td>570</td>
<td>Computer Architecture</td>
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<td>571</td>
<td>Parallel Architecture</td>
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<tr>
<td>620</td>
<td>Real-time Scheduling</td>
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<td>622</td>
<td>Advanced Knowledge Engineering</td>
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<td>633</td>
<td>VLSI Design and Automation</td>
<td>3</td>
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<tr>
<td>639</td>
<td>Special Problems (May be taken more than once) Prerequisite: permission of department chair. Advanced level coverage of various topics.</td>
<td>3</td>
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<tr>
<td>794</td>
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<td>500</td>
<td>Thermal System Components</td>
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<tr>
<td>510</td>
<td>Heating and Air Conditioning</td>
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<tr>
<td>511</td>
<td>Compressible Fluid Mechanics</td>
<td>3</td>
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<tr>
<td>512</td>
<td>Fundamentals of Flight</td>
<td>3</td>
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<tr>
<td>513</td>
<td>Introduction to Aerodynamics</td>
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<tr>
<td>514</td>
<td>Introduction to Aerospace Propulsion</td>
<td>3</td>
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<tr>
<td>515</td>
<td>Energy Conversion</td>
<td>3</td>
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<tr>
<td>516</td>
<td>Heat Transfer Processes</td>
<td>3</td>
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<tr>
<td>517</td>
<td>Experimental Stress Analysis I</td>
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<tr>
<td>518</td>
<td>Advanced Control</td>
<td>3</td>
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<td>519</td>
<td>Theory of fixed priority scheduling</td>
<td>3</td>
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<tr>
<td>520</td>
<td>Advanced Seminar (to be taken more than once) Prerequisite: permission of department chair. Advanced level coverage of specialized topics.</td>
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<td>521</td>
<td>Computer System Design</td>
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<td>3</td>
</tr>
<tr>
<td>794</td>
<td>Advanced Seminar (to be taken more than once) Prerequisite: permission of department chair. Advanced level coverage of various topics.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>612</td>
<td>EXPERIMENTAL STRESS ANALYSIS II</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisite: 622. Dynamic strain gage methods, transducer design, Moire fringe techniques and photoelastic stresses.</td>
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</tr>
<tr>
<td>618</td>
<td>EXPERIMENTAL STRESS ANALYSIS II</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisite: 612. Introduction to machine mechanics. Topics include strain gage, electric contact, and optical methods.</td>
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</tr>
<tr>
<td>621</td>
<td>CONTINUUM MECHANICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Analysis of stress and deformation at a point. Development of fundamental equations for equilibrium of solid and mechanical systems by using basic laws of dynamics, conservation of mass and energy. Development of constitutive relations.</td>
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<tr>
<td>622</td>
<td>APPLIED STRESS ANALYSIS I</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 612. Continuation of 612 with specific application to solid mechanics. Development of energy theory for beams, frames, and shells. Use of computerization.</td>
<td></td>
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</tr>
<tr>
<td>624</td>
<td>CONTINUUM MECHANICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Analysis of stress and deformation at a point. Development of fundamental equations for equilibrium of solid and mechanical systems by using basic laws of dynamics, conservation of mass and energy. Development of constitutive relations.</td>
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</tr>
<tr>
<td>626</td>
<td>FUNDAMENTAL OF FRACTURE MECHANICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 622 or permission of instructor. Methods of stress analysis in elastic- plastic media containing cracks and holes. Theories of brittle fracture. Fracture propagation. Fatigue fractures. Finite element approaches to fracture mechanics.</td>
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</tr>
<tr>
<td>628</td>
<td>ANALYSIS OF MECHANICAL COMPONENTS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Theory of failure and plastic flow. Fatigue, creep analysis and introduction to fracture mechanics.</td>
<td></td>
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</tr>
<tr>
<td>630</td>
<td>FATIGUE OF ENGINEERING MATERIALS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 624. Cyclic and cyclic behavior. Dislocation networks and their interactions; correlation of dislocation-microstructure interactions; crack initiation; crack propagation; short cracks; cracks; cracks; crack closure; environmental effects.</td>
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</tr>
<tr>
<td>632</td>
<td>ADVANCED MATERIALS AND MANUFACTURING PROCESSES</td>
<td>3 credits</td>
</tr>
<tr>
<td>Manufacturing processes for advanced materials; classification; technological aspects of bulk deformation; casting, joining, forming, machining, molding, powder metallurgy; rapid solidification; nanotechnology; economic aspects; technical and social aspects.</td>
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</tr>
<tr>
<td>636</td>
<td>MECHANICAL BEHAVIOR OF MATERIALS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Mechanical behavior of engineering materials; metallurgy of deformation; dislocation effects and deformation; strengthening mechanisms; theromechanical processing; mechanical testing.</td>
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<tr>
<td>639</td>
<td>NONLINEAR ENGINEERING PROBLEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 622. Solution of ordinary and partial differential equations governed by the fundamental theorems of mechanics. Analysis of phase space trajectories, singularities and stability. Development of approximate analytical methods.</td>
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<tr>
<td>640</td>
<td>TURBULENCE OF DISCRETE SYSTEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 531 or equivalent. Study of vibrations of multidegrees of freedom systems including forced and free vibrations, damped and transient response, normal mode vibrations and related techniques. Application to seismic design and shock design.</td>
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</tr>
<tr>
<td>651</td>
<td>KINETIC DESIGN</td>
<td>3 credits</td>
</tr>
<tr>
<td>652</td>
<td>RELIABILITY IN DESIGN</td>
<td>3 credits</td>
</tr>
<tr>
<td>653</td>
<td>COMPUTERIZED MODAL ANALYSIS OF STRUCTURES</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 639 or equivalent. Modal analysis and computer techniques, digital signal processing concepts, structural dynamics theory, modal parameter estimation with “hands-on” experience in the application of modal measurement techniques in vibration analysis.</td>
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<tr>
<td>654</td>
<td>ADVANCED DYNAMICS OF ROTATING MACHINES</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 531 or equivalent. Dynamic modelling and simulation of complex rotor-bearing systems. Static state, transient and stability analysis with inertia, gyroscopic, imbalance, rotor-bow, disk-skew and impeller-interaction effects.</td>
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<tr>
<td>655</td>
<td>STRESS WAVES IN SOLIDS AND FLUIDS</td>
<td>3 credits</td>
</tr>
<tr>
<td>656</td>
<td>SYSTEM ANALYSIS AND CONTROL DESIGN</td>
<td>3 credits</td>
</tr>
<tr>
<td>Unified tools of maintenance, failure response analysis, controllability and observability, stability theory and analysis of linear and nonlinear engineering processes. Design of feedback control systems to perform optimal and robust real-time control application.</td>
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<tr>
<td>657</td>
<td>PROCESS IDENTIFICATION AND COMPUTER CONTROL</td>
<td>3 credits</td>
</tr>
<tr>
<td>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.</td>
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<tr>
<td>660</td>
<td>EXPERT SYSTEMS IN CONTROLS AND MANUFACTURING</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 540 or equivalent. Application of expert systems to problems of computer process control. Integrated artificial intelligence systems and robotics.</td>
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<tr>
<td>664</td>
<td>NEURAL AND FUZZY CONTROL SYSTEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: Permission by instructor. Theory of optimization in engineering systems, development and method of solution optimization problems for physical processes, large systems. Alternative modeling, optimal control, computerized manufacturing systems.</td>
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<tr>
<td>668</td>
<td>MICRO- AND NANO-FLUID DYNAMICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 611 or permission of instructor. This course includes fundamentals of the analytical and numerical solution of problems pertinent to fluid mechanics on nano- and microscales. Applications will include micro-engines, MEMS, micro-filters, and synthesis of nano-mechanical systems.</td>
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<tr>
<td>670</td>
<td>MICROSCALE HEAT AND MASS TRANSFER</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 608 and 615 or permission. Kinetics theory, classical and quantum statistics, structure of solids, phonons and solids, free electrons in metals, Boltzmann transport theory, hyperbolic heat conduction, thermal conductivity of thin films, laser materials processing.</td>
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<tr>
<td>671</td>
<td>WEB-BASED SOLID MODELING AND E- MANUFACTURING</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 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 realization.</td>
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<tr>
<td>672</td>
<td>FUNDAMENTALS OF CRYSTALLIZATION AND SOLIDIFICATION</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 612 or equivalent, or permission of instructor. The analysis of integrated computer-aided manufacturing systems, design of automated manufacturing components and simulations of flexible cellular manufacturing systems.</td>
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<tr>
<td>676</td>
<td>MEASUREMENTS METHODS AND EXPERIMENTAL ERROR IN THERMOFLUID SCIENCES</td>
<td>3 credits</td>
</tr>
<tr>
<td>Theories and techniques that includes experimental error analysis, optics and optical ray tracing, principles of testing, methods and devices for fluid flow quantization and temperature measurement. Laboratory work and experiments.</td>
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<tr>
<td>679</td>
<td>DEFORMATION AND FAILURE OF POLYMERS AND SOFT MATERIALS</td>
<td>3 credits</td>
</tr>
<tr>
<td>This course introduces the concepts of deformation, fracture, and failure analyses of engineering polymers, soft, and biological materials.</td>
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<tr>
<td>681</td>
<td>SPECIAL TOPICS IN MICROENGINEERING</td>
<td>1-4 credits</td>
</tr>
<tr>
<td>Prerequisite: Permission by instructor. For qualified candidate for graduate degree. Supervised research in the student's major field of training or experience. Credit depends upon nature of project and extent of project as determined by advisor and department chair.</td>
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<tr>
<td>687</td>
<td>ENGINEERING REPORT</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisite: Permission of advisor. A relevant problem in mechanical engineering for students seeking the non-thesis option. The final engineering report must be approved by the advisor and the advisory committee.</td>
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<tr>
<td>698</td>
<td>MASTER’S RESEARCH</td>
<td>1-6 credits</td>
</tr>
<tr>
<td>Prerequisite: Permission of advisor. (May be repeated.) Research on a suitable topic in mechanical engineering culminating in a master’s thesis.</td>
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<tr>
<td>699</td>
<td>MASTER’S THESIS</td>
<td>1-6 credits</td>
</tr>
<tr>
<td>Prerequisite: permission of advisor. (May be repeated) Supervised research in a specific area of mechanical engineering.</td>
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<tr>
<td>704</td>
<td>FINITE ELEMENT ANALYSIS II</td>
<td>3 credits</td>
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<tr>
<td>705</td>
<td>FINITE ELEMENT ANALYSIS III</td>
<td>3 credits</td>
</tr>
<tr>
<td>710</td>
<td>DYNAMICS OF VISCOS FLOW II</td>
<td>3 credits</td>
</tr>
<tr>
<td>711</td>
<td>COMPUTATIONAL FLUID DYNAMICS II</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 611 or permission of instructor. Development of advanced computational techniques for convection-dominated flows. Higher order explicit and implicit schemes including algebraic and spectral methods applied to benchmark problems.</td>
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<tr>
<td>715</td>
<td>HYDRODYNAMIC STABILITY</td>
<td>3 credits</td>
</tr>
<tr>
<td>719</td>
<td>ADVANCED HEAT TRANSFER</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 615, 610. Topics include nonhomogeneous or nonlinear boundary value problems of heat conduction, heat transfer with melting, solidification and ablation, heat transfer in porous systems and hydrodynamically and thermally unsteady convection.</td>
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<tr>
<td>729</td>
<td>APPLIED STRESS ANALYSIS II</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 623. Continuation of 623. Development of approximate solution techniques including finite elements, method of weighted residuals (Rayleigh-Ritz, Galerkin, Trefftz, collocation, least squares, etc.) and finite differences.</td>
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<tr>
<td>726</td>
<td>NONLINEAR CONTINUUM MECHANICS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 622. Finite deformation and strain, stress, constitutive equations, strain energy functions. Solution of finite deformation problems in hypoelasticity, coupled thermoelasticity, elastoviscoplasticity and micromechanical damage.</td>
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<tr>
<td>730</td>
<td>VIBRATIONS OF CONTINUOUS SYSTEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 630. Continuation of 630. Analysis of continuous vibrating systems, using separation of variables, energy methods, Rayleigh-Ritz and other approximation techniques. Concepts and solutions of integral equations as applied to continuous systems.</td>
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<tr>
<td>733</td>
<td>ADVANCED MODAL ANALYSIS OF STRUCTURES</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 633 or equivalent. Theoretical and numerical techniques. Modal parameter identification. System modification; mass/stiffness/damping matrices substructuring, Prediction and evaluation of structural modified dynamic characteristics.</td>
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<tr>
<td>741</td>
<td>OPTIMIZATION THEORY AND APPLICATIONS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: Permission by instructor. Theory of optimization in engineering systems, development and method of solution optimization problems for physical processes, large systems. Introduction to numerical optimization methods of system optimization and control.</td>
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<tr>
<td>763</td>
<td>ADVANCED METHODS IN ENGINEERING ANALYSIS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Applications of finite difference and finite element methods, variational methods, integral methods and similarity transforms to engineering problems in heat transfer, fluid mechanics and vibrations.</td>
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</tbody>
</table>
BIOMEDICAL ENGINEERING 4800:

522 PHYSIOLOGICAL CONTROL SYSTEMS
The basic techniques employed in control theory, systems analysis, and model identification as they apply to physiological systems.

530 DESIGN OF MEDICAL IMAGING SYSTEMS
Prerequisites: Instructor. Physical principles and engineering design of medical imaging systems, emphasis on digital radiography, computed tomography, nuclear medicine, ultrasound, and magnetic resonance.

535 IMAGE SCIENCE
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.

573 PHYSICS OF MEDICAL IMAGING
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 optimization.

560 EXPERIMENTAL TECHNIQUES IN BIOMECHANICS
Prerequisites: Permission. Principles of testing and measuring devices commonly used for biofluid and biolocomotory mechanics studies. Laboratories for demonstration and hands-on experience.

570 HUMAN FACTORS ENGINEERING
Research and human error, human capabilities and limitations, crew protection, display systems, controls and controlling actions, interface design principles, risk management, safety and human performance enhancement.

600 BIOMEDICAL ENGINEERING COLLOQUIUM
May be repeated for a maximum of 16 credits. The Biomedical Engineering Colloquium is a seminar series designed to introduce students to current topics in biomedical engineering research, design, and business.

601 BIOMEDICAL INSTRUMENTATION I
Prerequisites: 3100:561, 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 BIOMETRY
Statistics and experimental design topics for the biomedical and biomedical engineering discipline including distributions, hypothesis testing and estimation, ANOVA, probit analysis and nonparametric statistics.

620 NEURAL NETWORKS
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 lassial and modern neural 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
Prerequisites: Permission. Study of various sensory modalities from a systems engineering perspective. Techniques from linear and nonlinear systems analysis are applied to aspects of vision, hearing, touch, and position sensing in humans. Comparisons are made with artificial emulations of these senses.

623 PROCESSING OF BIOMEDICAL SIGNALS
Prerequisites: standing in the College of Engineering and 611 or equivalent. Concepts for the processing of biological continuous signals and point processes including discriminant and principal component analysis, histograms, correlograms and data displays.

624 IMAGE PROCESSING FOR BIOMEDICAL DATA
Image processing, quantization, and data coding. Enhancements including smoothing and sharpening. Restoration using inverse and Wiener filters. Edge detection and thresholding with region growing for segmentation.

627 ADVANCES IN DRUG AND GENE DELIVERY SYSTEMS
This course will examine technological innovations for the delivery of drugs and genes. Methods of introducing drugs and genes into the body, modeling drug transport, and metabolic responses of cells and organs will be analyzed.

630 BIOMEDICAL COMPUTING
Computer applications in health care, clinical laboratories, AI/HIT, medical records, direct order entry, DIAs, patient monitoring, peripherals and interfaces, diagnostic algorithms, automated EEG, ECG systems.

632 DIAGNOSTIC IMAGING SYSTEMS
An introduction to diagnostic imaging techniques as applied to Digital Radiography, Computed Tomography (CT), nuclear medicine, ultrasound imaging, magnetic resonance imaging (MRI), microcalorimetry, and optical confocal microscopy.

633 BIOMEDICAL OPTICS
Application of lightwave principles and optical fibers on the engineering design and development of instrumentation, techniques, and applications for medical diagnostic imaging, and treatment of disease.

634 MEDICAL IMAGING DEVICES
Imaging modalities including radiation, magnetic resonance, and sound. The formation of images. Specific devices including computer tomography, magnetic resonance, ultrasound, gamma cameras and PET.

635 BIOMEDICAL NANOENGINEERING
Prerequisites: Permission. Instructor. Engineering principles of nanotechnology and introduction to the design of instrumentation, systems and techniques, aimed to explore biomolecules and biomatials at the microscopic level, at one billionth of a meter.

640 SPINE MECHANICS
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>695</td>
<td>FIELD EXPERIENCE: MASTER'S</td>
<td>1-3</td>
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<tr>
<td>655</td>
<td>MASTER'S PROJECT IN ASSESSMENT AND EVALUATION: PART 2</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>654</td>
<td>MASTER'S PROJECT IN ASSESSMENT AND EVALUATION: PART 1</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>701</td>
<td>HISTORY OF EDUCATION IN AMERICAN SOCIETY</td>
<td>3</td>
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<tr>
<td>703</td>
<td>SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>705</td>
<td>SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>710</td>
<td>ADULT LEARNING, DEVELOPMENT, AND MOTIVATION</td>
<td>3</td>
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<tr>
<td>721</td>
<td>LEARNING PROCESSES</td>
<td>3</td>
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<tr>
<td>643</td>
<td>VISION, GOAL PLANNING, AND PROFESSIONAL PRACTICE FOR TEACHERS</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>642</td>
<td>INTRODUCTION TO CLASSROOM ASSESSMENT</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>640</td>
<td>TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>630</td>
<td>TOPICAL SEMINAR IN COMPUTER-BASED EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>629</td>
<td>FUNDAMENTAL IN E-LEARNING</td>
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<tr>
<td>628</td>
<td>TECHNIQUES OF RESEARCH</td>
<td>3</td>
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</tr>
<tr>
<td>631</td>
<td>PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL TECHNOLOGY</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
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<tr>
<td>705</td>
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</tr>
<tr>
<td>703</td>
<td>SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
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<tr>
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<td>710</td>
<td>ADULT LEARNING, DEVELOPMENT, AND MOTIVATION</td>
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<tr>
<td>721</td>
<td>LEARNING PROCESSES</td>
<td>3</td>
<td></td>
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<tr>
<td>643</td>
<td>VISION, GOAL PLANNING, AND PROFESSIONAL PRACTICE FOR TEACHERS</td>
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<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
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<tr>
<td>642</td>
<td>INTRODUCTION TO CLASSROOM ASSESSMENT</td>
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<td>640</td>
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</tr>
<tr>
<td>630</td>
<td>TOPICAL SEMINAR IN COMPUTER-BASED EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>629</td>
<td>FUNDAMENTAL IN E-LEARNING</td>
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<td></td>
</tr>
<tr>
<td>628</td>
<td>TECHNIQUES OF RESEARCH</td>
<td>3</td>
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<tr>
<td>631</td>
<td>PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL TECHNOLOGY</td>
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<td>SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>703</td>
<td>SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>705</td>
<td>SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>710</td>
<td>ADULT LEARNING, DEVELOPMENT, AND MOTIVATION</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>721</td>
<td>LEARNING PROCESSES</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>643</td>
<td>VISION, GOAL PLANNING, AND PROFESSIONAL PRACTICE FOR TEACHERS</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>642</td>
<td>INTRODUCTION TO CLASSROOM ASSESSMENT</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>640</td>
<td>TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>630</td>
<td>TOPICAL SEMINAR IN COMPUTER-BASED EDUCATION</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
<tr>
<td>629</td>
<td>FUNDAMENTAL IN E-LEARNING</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>628</td>
<td>TECHNIQUES OF RESEARCH</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>631</td>
<td>PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL TECHNOLOGY</td>
<td>3</td>
<td>Prerequisites: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations.</td>
</tr>
</tbody>
</table>
### GENERAL ADMINISTRATION

**5170:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>590</td>
<td>WORKSHOP</td>
<td>1-3</td>
<td>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.</td>
</tr>
<tr>
<td>591</td>
<td>WORKSHOP</td>
<td>1-3</td>
<td>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.</td>
</tr>
<tr>
<td>601</td>
<td>ORGANIZATIONAL LEADERSHIP</td>
<td>3</td>
<td>Prerequisite: 5100:640. A perspective of educational leadership and the contest in which it operates, with an emphasis on the processes, tasks, roles and relationships involved. Field based research required.</td>
</tr>
<tr>
<td>602</td>
<td>MANAGEMENT OF PHYSICAL RESOURCES</td>
<td>3</td>
<td>An introduction to the principles, practices, and new dimensions involved in the planning and management of educational facilities.</td>
</tr>
<tr>
<td>603</td>
<td>MANAGEMENT OF HUMAN RESOURCES</td>
<td>3</td>
<td>An examination of the nature of the personnel function.</td>
</tr>
<tr>
<td>604</td>
<td>SCHOOL CONTEXTS AND COMMUNITY INVOLVEMENT</td>
<td>3</td>
<td>Prerequisites: 601 and 5100:640. This course is for graduate students interested in P-12 school leadership. It focuses on understanding strategies for collaborating with members of the school community.</td>
</tr>
<tr>
<td>606</td>
<td>EVALUATION IN EDUCATIONAL ORGANIZATIONS</td>
<td>3</td>
<td>Prerequisites: 601 and 5100:640. An examination of the general concepts, models, practical applications and considerations involved in the evaluation of educational organizations.</td>
</tr>
<tr>
<td>607</td>
<td>SCHOOL LAW</td>
<td>3</td>
<td>Prerequisites: 5100:601 and 5100:640. An examination of the legal principles underlying education in the United States as reflected in statutory provisions, court decisions and administrative orders. Field based research required. Course also available fully online.</td>
</tr>
<tr>
<td>608</td>
<td>SCHOOL FINANCE AND ECONOMICS</td>
<td>3</td>
<td>A study of financial operations of school systems, including taxes, other sources of revenue, operating budgets, and the correlation of funding and effects of economic factors.</td>
</tr>
<tr>
<td>609</td>
<td>PRINCIPLES OF CURRICULUM DEVELOPMENT</td>
<td>3</td>
<td>Prerequisites: 601 and 5100:640. This course is intended to help the student develop the interpersonal and organizational competencies necessary to engage in curriculum decision making.</td>
</tr>
<tr>
<td>610</td>
<td>SUPERVISION OF INSTRUCTION</td>
<td>3</td>
<td>Prerequisites: 601 and 5100:640. An introduction to the school supervision that improves instructional outcomes. It involves direct assistance, curriculum, staff and student development, and action research.</td>
</tr>
<tr>
<td>611</td>
<td>STUDENT SERVICES AND INTERAGENCY COLLABORATION</td>
<td>3</td>
<td>Prerequisites: 601 and 5100:640. Overview of pupil services including analysis of the nature and development of each component and program and discussion of current issues and trends. Field based research required.</td>
</tr>
<tr>
<td>613</td>
<td>STUDENT SERVICES AND DISABILITY LAW</td>
<td>3</td>
<td>Individual supervision as related to the development and maintenance of a school district chosen by the student and his/her advisor.</td>
</tr>
<tr>
<td>614</td>
<td>SCHOOL CULTURE AND GOVERNANCE</td>
<td>3</td>
<td>An examination of leadership as it relates to the development and maintenance of a school culture and course conducive to teaching and learning.</td>
</tr>
<tr>
<td>615</td>
<td>695.5 PRINCIPAL INTERNSHIP</td>
<td>3</td>
<td>Students must complete a successful two semester internship in a school district chosen by the student and his/her advisor.</td>
</tr>
<tr>
<td>617</td>
<td>INDEPENDENT STUDY</td>
<td>1-3</td>
<td>Prerequisites: permission of advisor and supervisor of the independent study. Area of study determined by student's needs. (May be repeated for a total of six credits.)</td>
</tr>
<tr>
<td>704</td>
<td>ADVANCED ORGANIZATIONAL LEADERSHIP</td>
<td>3</td>
<td>Prerequisites: Admission to a College of Education doctoral program. A study of organizations and strengths and weaknesses of common methods of administering them. Practical means by which overcoming bureaucratic weaknesses of bureaucracies is offset or improved.</td>
</tr>
<tr>
<td>705</td>
<td>DECISION MAKING IN ADMINISTRATIVE EDUCATION</td>
<td>3</td>
<td>Prerequisites: Admission to a College of Education doctoral program. Decision making is portrayed as a central function of the educational administrator with a related presentation of the theory, research and practice of decision making.</td>
</tr>
<tr>
<td>707</td>
<td>THE SUPERINTENDENCY</td>
<td>3</td>
<td>A description of the superintendent's role and an examination of the strategies for dealing with the major relational and functional aspects of the superintendency.</td>
</tr>
<tr>
<td>708</td>
<td>ECONOMICS IN EDUCATION</td>
<td>3</td>
<td>Prerequisites: Admission to a College of Education doctoral program or permission. Issues related to the changing marketplace of public, private schooling and higher education institutions as they relate to an urban environment.</td>
</tr>
</tbody>
</table>
### CURRICULUM AND INSTRUCTIONAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>520</td>
<td>ADVANCED INSTRUCTIONAL TECHNIQUES</td>
<td>3 credits</td>
<td>Methods of teaching a particular area of the 7-12 school curriculum for students in the Master’s with Licensure program.</td>
</tr>
<tr>
<td>520</td>
<td>TO EXPERIENCE: ADVANCED INSTRUCTIONAL 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>522</td>
<td>CONTENT AREA LITERACY</td>
<td>3 credits</td>
<td>Focus on the effective methods of teaching reading to diverse populations and/or learners whose language patterns are nonstandard.</td>
</tr>
<tr>
<td>524</td>
<td>TEACHING READING TO CULTURALLY DIVERSE LEARNERS</td>
<td>3 credits</td>
<td>Focus on the effective methods of teaching reading to diverse populations and/or learners whose language patterns are nonstandard.</td>
</tr>
<tr>
<td>540</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.</td>
</tr>
<tr>
<td>544</td>
<td>EDUCATIONAL INSTITUTES</td>
<td>4 credits (12 field hours)</td>
<td>Course applies methodologies for teaching reading, language arts in bilingual/multicultural classrooms. The bilingual student’s native language and culture are stressed.</td>
</tr>
<tr>
<td>544</td>
<td>EDUCATIONAL MATHEMATICS, SOCIAL SCIENCES AND STUDY TO BILINGUAL STUDENTS</td>
<td>3 credits</td>
<td>Prerequisite for the introduction to the theoretical, cultural, sociolinguistic bases of bilingual/multicultural education.</td>
</tr>
<tr>
<td>550</td>
<td>EDUCATION INSTITUTES</td>
<td>3 credits</td>
<td>Course applies methodologies for teaching reading, language arts in bilingual/multicultural classrooms. The bilingual student’s native language and culture are stressed.</td>
</tr>
<tr>
<td>550</td>
<td>TECHNOLOGY FOR TEACHING ENGLISH</td>
<td>4 credits (10 field hours)</td>
<td>Course applies methodologies for teaching reading, language arts in bilingual/multicultural classrooms. The bilingual student’s native language and culture are stressed.</td>
</tr>
<tr>
<td>550</td>
<td>FOR THE COLLEGE INSTRUCTOR</td>
<td>3 credits</td>
<td>Examine the role and mission of the training function in the modern industrial setting. Focusing on developing a course curriculum for the training function in the modern industrial setting.</td>
</tr>
<tr>
<td>550</td>
<td>STUDEYS 5500:</td>
<td>3 credits</td>
<td>Overview of the historical foundations, academic history, and educational traditions emerging from its European roots into American higher education to inform contemporary practice.</td>
</tr>
<tr>
<td>550</td>
<td>HISTORICAL FOUNDATIONS OF AMERICAN HIGHER EDUCATION</td>
<td>3 credits</td>
<td>Overview of the historical foundations, academic history, and educational traditions emerging from its European roots into American higher education to inform contemporary practice.</td>
</tr>
<tr>
<td>550</td>
<td>POSTSECONDARY DISTANCE LEARNING</td>
<td>3 credits</td>
<td>Overview of the historical foundations, academic history, and educational traditions emerging from its European roots into American higher education to inform contemporary practice.</td>
</tr>
<tr>
<td>550</td>
<td>INDEPENDENT STUDY IN HIGHER EDUCATION</td>
<td>1-3 credits</td>
<td>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.</td>
</tr>
<tr>
<td>550</td>
<td>TEACHING AND TRAINING TECHNICAL PROFESSIONALS 5400:</td>
<td>3 credits</td>
<td>Describes characteristics of the postsecondary learner, studies issues, factors, and strategies pertinent to successful learning in a variety of postsecondary learning environments. Delivered in face-to-face web enhanced format and fully online format.</td>
</tr>
<tr>
<td>550</td>
<td>LEARNING WITH TECHNOLOGY</td>
<td>3 credits</td>
<td>An overview of information and teaching technologies used and applied in a postsecondary setting, including methods of teaching and training opportunities, including 100% online, face-to-face web enhanced format and fully online format.</td>
</tr>
<tr>
<td>550</td>
<td>INTRAVENTION EDUCATION FOR YOUTH AND ADULTS</td>
<td>3 credits</td>
<td>History and operations of current workforce for youth and adults. Includes study of social, economic, and political influences on growth and expansion of workforce education programs. Delivered in face-to-face web enhanced format and fully online format.</td>
</tr>
<tr>
<td>550</td>
<td>TRAINING IN BUSINESS AND INDUSTRY</td>
<td>3 credits</td>
<td>Examines the role and mission of the training function in the modern industrial setting. Focusing on developing a course curriculum for the training function in the modern industrial setting.</td>
</tr>
<tr>
<td>550</td>
<td>INSTITUTIONAL EDUCATION FOR YOUTH AND ADULTS</td>
<td>3 credits</td>
<td>History and operations of current workforce for youth and adults. Includes study of social, economic, and political influences on growth and expansion of workforce education programs. Delivered in face-to-face web enhanced format and fully online format.</td>
</tr>
<tr>
<td>550</td>
<td>SYSTEMATIC CURRICULUM DESIGN FOR POSTSECONDARY INSTRUCTION</td>
<td>3 credits</td>
<td>Examines the role and mission of the training function in the modern industrial setting. Focusing on developing a course curriculum for the training function in the modern industrial setting.</td>
</tr>
<tr>
<td>550</td>
<td>SYSTEMATIC CURRICULUM DESIGN IN POSTSECONDARY EDUCATION</td>
<td>3 credits</td>
<td>Examines the role and mission of the training function in the modern industrial setting. Focusing on developing a course curriculum for the training function in the modern industrial setting.</td>
</tr>
<tr>
<td>550</td>
<td>EDUCATIONAL GERONTOLOGY SEMINAR</td>
<td>3 credits</td>
<td>Designed for person practicing in field of gerontology or preparing for a specialization in educational gerontology. Includes information on development and implementation of curricula, seminars, occupational training programs and workshops for older people.</td>
</tr>
<tr>
<td>550,1,2 WORKSHOP</td>
<td>1-3 credits each</td>
<td>1-3 credits each</td>
<td>Group study of special topics of critical, contemporary concern in professional education.</td>
</tr>
<tr>
<td>550</td>
<td>SPECIAL TOPICS: WORKFORCE EDUCATION/TRAINING</td>
<td>3 credits</td>
<td>Examines the role and mission of the training function in the modern industrial setting. Focusing on developing a course curriculum for the training function in the modern industrial setting.</td>
</tr>
<tr>
<td>550</td>
<td>INSTITUTIONAL INSTITUTES</td>
<td>1-4 credits</td>
<td>Special courses designed as in-service upgrading programs. Frequently provided with support for national foundations.</td>
</tr>
<tr>
<td>560</td>
<td>THE TWO-YEAR COLLEGE</td>
<td>3 credits</td>
<td>Examine the role and mission of the training function in the modern industrial setting. Focusing on developing a course curriculum for the training function in the modern industrial setting.</td>
</tr>
<tr>
<td>560</td>
<td>ADVANCED SYSTEM DESIGN- NEEDS ASSESSMENT AND EVALUATION</td>
<td>3 credits</td>
<td>An examination of the role of postsecondary education and training in the development of 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>560,2,3 WORKSHOP</td>
<td>1-3 credits each</td>
<td>1-3 credits each</td>
<td>Group study of special topics of critical, contemporary concern in professional education.</td>
</tr>
<tr>
<td>560</td>
<td>POSTSECONDARY TEACHER LEADERS</td>
<td>3 credits</td>
<td>Examines the role of the supervisor of postsecondary instruction, facilitation and evaluation of postsecondary instructors, 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>560</td>
<td>DISTANCE LEARNING</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>560</td>
<td>MIDDLE SCHOOL 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>560</td>
<td>PHILOSOPHY AND ORGANIZATION OF MIDDLE SCHOOLS</td>
<td>3 credits</td>
<td>Studies, theory, research, and exemplary practices focusing on the professional organization of middle level education.</td>
</tr>
<tr>
<td>560</td>
<td>LICENSURE SEMINAR IN CURRICULUM AND INSTRUCTION</td>
<td>3 credits</td>
<td>This course should be taken at the beginning of the Master's with Licensure program as an introduction to curriculum and the pragmatics of teaching.</td>
</tr>
<tr>
<td>560</td>
<td>INSTRUCTIONAL AND MANAGEMENT PRACTICES</td>
<td>3 credits</td>
<td>Studies in the use of teaching models and management strategies to become effective instructors. Also included are educational issues that relate to effective management and instruction.</td>
</tr>
<tr>
<td>560</td>
<td>ADVANCED INSTRUCTIONAL TECHNIQUES: MODERN LANGUAGES P-8</td>
<td>3 credits</td>
<td>Prerequisite: 617 for permission of instructor. Focus on the effective methods of teaching reading to diverse populations and/or learners whose language patterns are nonstandard.</td>
</tr>
<tr>
<td>560</td>
<td>CHILDREN’S LITERATURE IN THE CURRICULUM</td>
<td>3 credits</td>
<td>Examination of theory and research on the effective methods of teaching reading to diverse populations and/or learners whose language patterns are nonstandard.</td>
</tr>
<tr>
<td>560</td>
<td>ASSESSMENT OF READING DIFFICULTIES</td>
<td>3 credits</td>
<td>Focus on the effective methods of teaching reading to diverse populations and/or learners whose language patterns are nonstandard.</td>
</tr>
</tbody>
</table>

### Notes
- On-the-job experience related to student’s program of studies. Credit/noncredit.
- Teaching reading to culturally diverse learners. Credit/noncredit.
- Principles of bilingual/multicultural education. Credit/noncredit.
- Teaching reading to bilingual students. Credit/noncredit.
- Understanding history, philosophy, and science of bilingual/multicultural education. Credit/noncredit.
- Supervised experience in workforce education. Credit/noncredit.
- Advanced instructional techniques. Credit/noncredit.
- Seminars in trends and issues in curriculum and instruction. Credit/noncredit.
- Seminar in trends and issues in curriculum and instruction. Credit/noncredit.
- Seminar in trends and issues in curriculum and instruction. Credit/noncredit.
### Graduate Courses

#### LITERACY ASSESSMENT PRACTICUM
- **3 credits** (25.5 field hours)
- Prerequisite: 626. Laboratory experience within classroom, small groups and individuals. A student will design, implement, procedures, and follows prescribed reading improvement. (May be repeated for a maximum of 6 credits.)

#### READING PROGRAMS IN SECONDARY SCHOOLS
- **3 credits**
- Prerequisite: Admission to the teaching or teaching of reading. An overview of procedures and will be addressed.

#### ADVANCED BEHAVIORAL STRATEGIES FOR THE EDUCATOR
- **3 credits**
- This course provides the educator with an advanced examination of strategies designed to improve student behavior in the school setting.

#### SEMINAR IN TEACHING FOREIGN LANGUAGES
- **3 credits** (May be repeated for a total of six credits.) Issues and subjects related to research in foreign language education and language learning theories. Different topics will be offered from section to section.

#### TOPICAL SEMINAR IN RESEARCH AND THEORY IN FOREIGN LANGUAGE EDUCATION
- **3 credits** (May be repeated for a total of six credits.) Issues and subjects related to research in foreign language education and language learning theories. Different topics will be offered from section to section.

#### DEVELOPMENT OF CHILDREN: GRADES FOUR AND FIVE
- **3 credits**
- Prerequisite: Early Childhood P-3 teaching license. Course focuses on nature needs of grades four to five students. Development including physical, cognitive-intellectual, moral, psychological and social-emotional. Explore related issues in home, school and community contexts.

#### FOURTH GRADE CURRICULUM AND INSTRUCTION
- **3 credits**
- Prerequisite: 640. The language arts, mathematics, science and social studies, arts, and technology curriculum and the knowledge of inquiry and problem-based instruction necessary for fourth grade learners.

#### FIFTH GRADE CURRICULUM AND INSTRUCTION
- **3 credits**
- Prerequisite: 640. Models an inquiry-based format that integrates math, science, social studies, and technology standards where students learn to create, implement, manage, and evaluate centered learning environments.

#### THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS
- **3 credits**
- Focuses on the development of mathematics education, current trends in the teaching of elementary school mathematics, and future directions in mathematics education.

#### ELEMENTARY SCIENCE CURRICULUM AND INSTRUCTION
- **3 credits**
- A critical analysis of contemporary science curriculum and instructional methods for the young learner with particular attention to constructivism and national standards.

#### SECONDARY SCIENCE CURRICULUM AND INSTRUCTION
- **3 credits**
- An introduction to the theory and practice of curriculum and instructional methods in science for early adolescent and adolescent learners.

#### COACHING IN DIVERSE CLASSROOMS
- **2 credits**
- This course focuses on the preparation of literacy specialists to coach teachers in the implementation of culturally responsive literacy instruction for diverse learners.

#### COACHING FOR EFFECTIVE ASSESSMENT PRACTICE
- **2 credits**
- Designed for teachers and professional practice, this course teaches knowledge, skills and dispositions in school-based professional development and coaching on classroom-based literacy assessment concepts and skills.

#### PEDAGOGY OF EFFECTIVE LITERACY INSTRUCTION
- **2 credits**
- The course enables candidates to demonstrate knowledge of a wide range of instructional practices, methods, and curriculum materials, including technology, that support effective literacy.

#### PROFESSIONAL DEVELOPMENT IN LITERACY
- **2 credits**
- An introduction to research and knowledge based research related to teacher professional development with an emphasis of coaching as one venue of supporting teacher professional development.

#### ADVANCED LITERACY RESEARCH
- **2 credits**
- This course is an introduction to literacy research as an integral part of professional growth and the impact of literacy development and supports engagement in inquiry that advances candidates understanding of literacy instruction.

#### LITERACY SPECIALIST INTERNSHIP
- **4 credits** (May be repeated for a maximum of eight credits)
- The internship is a school-based practicum that integrates the accommodation of the Literacy Specialist Endorsement Standards and focuses on data-based decision making to inform coaching.

#### MASTER'S RESEARCH
- **3 credits**
- Prerequisite: 760. The implementation of a research design for an inquiry into a curricular and instructional problem within an educational setting.

#### FIELD EXPERIENCE: COLLOQUIUM
- **1 credit**
- Prerequisite: admission to student teaching; corequisite: 692. Students develop skills needed to conduct Action Research studying their own intervention to identify means to improve the effectiveness of teaching and learning.

#### FIELD EXPERIENCE: MASTER’S WITH LICENSURE
- **1-3 credits**
- Prerequisite: admission to the Ph.D. in Elementary Education or the Ph.D. in Secondary Education program. Learners will develop individualized programs of study and plan their doctoral studies. An overview of procedures and will be addressed.

#### ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION
- **3 credits**
- Survey of research, comparison and evaluation of programs, design and development of projects in reading through group or individual study.

#### DOCTORAL SEMINAR IN CURRICULUM AND INSTRUCTIONAL STUDIES
- **1-3 credits**
- Prerequisite: admission to the Ph.D. program in either Elementary Education or Secondary Education or department consent. Intensive examination of a particular area of teacher education. (May be repeated with change of topic for a total of 9 credits.)

#### DOCTORAL FIELD EXPERIENCE
- **1-6 credits each**
- (May be repeated for a total of 6 hours). Intensive job-related experience pertinent to student’s needs. Student must be able to demonstrate skills and leadership abilities in an on-the-job situation.

#### INDEPENDENT STUDY
- **1-6 credits**
- Area of study determined by student’s needs.

#### DOCTORAL DISSERTATION
- **1-20 credits**
- Prerequisite: Admission to the program. Students develop skills needed to conduct Action Research studying their own intervention to identify means to improve the effectiveness of teaching and learning.

### Physical Education

#### MUSCULOSKELETAL ANATOMY I: UPPER EXTREMITY
- **3 credits**
- Designed to address the musculoskeletal system in comprehensive detail. Includes articulations, cytology, histology, neurological integration with lab and practical experiences.

#### MUSCULOSKELETAL ANATOMY II: LOWER EXTREMITY
- **3 credits**
- Designed to address the lower portions of the musculoskeletal system in comprehensive detail. Includes articulations, cytology, histology, neurological integration with lab and practical experiences.

#### ADVANCED STRENGTH AND CONDITIONING
- **3 credits**
- This course teaches strength and conditioning programs designed for heterogeneous populations. The course covers sport specific exercise prescriptions that aid injury prevention and performance enhancement.

#### INTRODUCTION TO SPORT SOCIOLOGY
- **3 credits**
- Provides information to students on the sociological aspects of sport. Delivered in a totally online format, web-based format, or face-to-face format.

#### CARDIORESPIRATORY FUNCTION
- **3 credits**
- This course is designed to study the normal structure and function of the respiratory system and how it is affected by different types of disease.

#### SPORT MANAGEMENT
- **3 credits**
- This course seeks to explore, acquire, and discuss knowledge within the theoretical and applied management practices of sport, fitness, and instructional programs. Delivered in a totally online format, web-based format, or face-to-face format.

#### SPORTS PLANNING/PROMOTION
- **3 credits**
- Analyzes marketing/promotions from a sport manager’s perspective. Emphasis on market- ing strategy, tactics, and development in sport delivery systems. Delivered in a totally online format, web-based format, or face-to-face format.

#### SPORT LEADERSHIP
- **3 credits**
- Introduces students to current issues related to leadership, management, and supervision. Examines current sport leadership research and governance structure of amateur and professional sport organizations. Delivered in a totally online format, web-based format, or face-to-face format.

#### NUTRITION FOR SPORTS
- **3 credits**
- This course will provide an explanation of the consumption, absorption, and recommendation for diet of athletes and the physically active individual.

#### NUTRITION FOR TEACHERS AND COACHES
- **3 credits**
- Covers nutritional basics and current topics related to teaching physical education/health and athletic programs.

#### FOUNDATIONS AND ELEMENTS OF ADAPTED PHYSICAL EDUCATION
- **3 credits**
- Principles of components, the strategies necessary in providing motor activities for handicapped students via application of a neuro-developmental model and alternative methods. Three hour lecture.

#### CARDIAC REHAB PRINCIPLES
- **3 credits**
- This course will teach students the core competencies for cardiac rehab professionals, based upon the American Association of Cardiovascular and Pulmonary Rehabilitation Specialists (AACVPR).

#### INJURY MANAGEMENT FOR TEACHERS AND COACHES
- **2 credits**
- This course challenges the student to understand ways to provide and care for the safety of individuals they help teach.

#### ADVANCED ATHLETIC INJURY MANAGEMENT: UPPER EXTREMITY
- **4 credits**
- This course is designed to study the normal structure and function of the respiratory system and how it is affected by different types of disease.

#### INSTRUCTIONAL TECHNIQUES IN SECONDARY PHYSICAL EDUCATION
- **3 credits**
- Instructional strategies for secondary physical education. The course content is to improve teh teaching skills of students who will be teaching physical education at the secondary level. It is a required course for the physical education licensure.

#### INSTRUCTIONAL TECHNIQUES FOR CHILDREN IN PHYSICAL EDUCATION
- **3 credits**
- Instructional strategies for elementary physical education. The course content is to improve teh teaching skills of students who will be teaching physical education for children. It is a required course for the physical education licensure.

#### ORGANIZATION AND ADMINISTRATION OF PHYSICAL/HEALTH EDUCATION, INTRAMURAL AND ATHLETICS
- **3 credits**
- General concepts of administration and organization in physical/health education, intramural, and athletics programs.

#### FOUNDATIONS OF SPORT SCIENCE, PHYSICAL AND HEALTH EDUCATION
- **3 credits**
- Overview of the emergence of sport science, physical and health education as a profession and the supporting role of the underlying scholarly and scientific disciplines.

#### PRINCIPLES OF COACHING
- **3 credits**
- Basics for becoming a successful coach. Discussion of principles applying to most sports, players, and coaches. Ten (10) clinical hours required. Delivered in a totally online format, web-based format, or face-to-face format.
562 LEGAL/ETHICAL ISSUES IN PHYSICAL AND LEISURE ACTIVITIES
Overview of legal and ethical elements of greatest concern to specialists in sport and physical activity. Topics may vary. Delivered in a totally online format, web-based format, or face-to-face format. 2 credits

565 PSYCHOLOGY OF INJURY REHABILITATION
This course will address the cognitive and affective aspects of injury and rehabilitation of injury. Specific topics may vary. 2 credits

570 ORTHOPEDIC INJURY AND PATHOLOGY
This course will discuss musculoskeletal pathology and surgical procedures associated with a physically active population. 3 credits

592 WORKSHOP
Practical, intensive, and concentrated involvement with current curricular practices in areas related to physical education. 1-3 credits

594 STUDENT TEACHING COLLOQUIUM
Prerequisite: Core courses and program studies courses. Corequisites: 595. Students who hold a master's degree but no teaching license who are completing the master's with a licensure program will meet while completing student teaching to discuss concerns about the student teaching experience to analyze previous learning as it relates to this and future teaching. 2 credits

595 PRACTICUM: STUDENT TEACHING
Prerequisites: Core courses and program studies courses. Corequisites: 594. Student teaching for 16 weeks in primary and secondary school settings. 8 credits

600 BIOMECHANICS APPLIED TO SPORT AND PHYSICAL ACTIVITY
Training future professionals in an integrated approach to qualitative diagnosis of motor skills for a variety of professional settings. Required clinical/field experiences. 4 credits

601 SPORTS ADMINISTRATION AND SUPERVISION
Organizational and administrative efficiency in implementing sports programs (event management, budgeting, public relations); objective and effective procedures for evaluation/selection of personnel; periodic program reviews. 3 credits

602 MOTOR BEHAVIOR APPLIED TO SPORTS
Coaching education principles related to motor development and motor skill learning. Focus on effective practices for learning and advanced skills teaching for coaches. 3 credits

603 TACTICS AND STRATEGIES IN THE SCIENCE OF COACHING
Course focuses on coaching and teaching the skills, tactics, and strategies in individual and team sports. May be taught online, web-enhanced, or face-to-face. 3 credits

604 CURRENT ISSUES IN SPORT AND PHYSICAL EDUCATION
This course presents a planned experience in interpretation and articulation of information within the context of selected aspects of current issues in sport. 3 credits

605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE
Function of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions. 3 credits

606 STATISTICS: QUANTITATIVE AND QUALITATIVE METHODS
Prerequisite: PSY 20506. Research methods/designs, statistics (application and interpretation, use of computers and appropriate software as they relate to various disciplines in the area of physical activity. 3 credits

609 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY
Analysis of factors influencing motivation of motor performance with emphasis on competition, audience effects, aggression. 3 credits

610 MASTERING TEACHING AND COACHING
To learn about becoming master teachers and coaches, students will apply effective teaching skills, focus on context, and reflect on the teaching/coaching process. Additional 10 clinical/field hours required. 3 credits

611 RESEARCH AND ANALYSIS OF EFFECTIVE TEACHING IN PHYSICAL EDUCATION
For the new professional, this course concentrates on research and analysis of skills and professional competencies needed to become an effective teacher of physical education. 3 credits

612 GENERAL MEDICAL ASPECTS
Covers various topics related to sports medicine and general medical conditions. Students will gain perspectives and exposure to a variety of allied health care professionals. 4 credits

615 CURRENT TOPICS IN EXERCISE PHYSIOLOGY
Class teaches students to be critical readers of the literature. Readings in several areas in exercise science will be done. Emphasis of exercise science, science and methodology with some guidance from the instructor. 3 credits

620 LABORATORY INSTRUMENTATION TECHNIQUES IN EXERCISE PHYSIOLOGY
This course is designed to provide hands-on laboratory experiences for students in the area of exercise science. 3 credits

630 BUSINESS OF SPORT
The focus of this course is related to the important knowledge that administrators should have related to the sport business field. 3 credits

637 COLLEGE ADMISSION COUNSELING II
Overview of research methods and statistics, understanding and conducting research, and program assessment and evaluation knowledge. 3 credits

636 COLLEGE ADMISSION COUNSELING I
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate necessary competencies to deal with a research problem in physical education. 3 credits

639 MENTAL ILLNESS AND MEDIA
Mental illness is often portrayed negatively in the media. This course focuses on mental illness, stigma, and how movies portray specific mental disorders. 2 credits

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. 3 credits

554 RESIDENT OUTDOOR EDUCATION
Focus on helping physical education teachers use critical thinking to review programs/organizations to meet specific needs relevant to outdoor education programs. Extended experience in outdoor settings required. 2 credits

556 OUTDOOR PURSUITS
Investigation and participation in practical experiences in outdoor pursuits. 4 credits

600 OUTDOOR EDUCATION: RURAL INFLUENCES
Prerequisite: 550 or 532. Utilization of resources of rural area as a learning/teaching environment. Content and methodology appropriate for teaching school-age children in rural setting. 3 credits

605 OUTDOOR EDUCATION: SPECIAL TOPICS
May be repeated with change in topic. Prerequisite: permission of instructor. Group and individual study of special topics of contemporary interest in outdoor education. 2-4 credits

590 WORKSHOP
Prerequisite: permission of advisor. In-depth analysis of current practices or problems related to outdoor education. Documentation of study required. 1-3 credits

599 MASTER'S PROBLEM
Prerequisite: permission of advisor. Intensive research study related to a problem in outdoor education or related discipline. 2-4 credits

609 MASTER'S THESIS
An original composition demonstrating independent scholarship in a discipline related to outdoor education. 4-6 credits

HEALTH EDUCATION
5570:

520 COMMUNITY HEALTH
Study of current public health problems. Organization and administration of various agencies and their roles in the solution of community health problems. 2 credits

521 COMPREHENSIVE SCHOOL HEALTH
Prerequisite: Admission to Graduate School. This course explains and presents comprehensive school health curricula for K-12. The three components of a comprehensive school health program are presented: instruction, services, and the environment. 4 credits

523 METHODS AND MATERIALS OF HEALTH EDUCATION
Prerequisite: permission of instructor. Planning, organization, use of instructional resources and delivery of health education content and teaching processes (pre-K-12). 3 credits

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. 2 credits

COUNSELING
5600:

515 MENTAL ILLNESS AND MEDIA
Mental illness is often portrayed negatively in the media. This course focuses on mental illness, stigma, and how movies portray specific mental disorders. 2 credits

550 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. 3 credits

590 WORKSHOP
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling. 3 credits

599 SEMINAR IN COUNSELING
Prerequisite: counseling majors must elect 600 prior to electing 651 and within the first 10 credits of 5600 course work. Structured group experience designed to help a student assess his/her role as a counselor. 1 credits

601 RESEARCH AND PROGRAM EVALUATION IN COUNSELING
Overview of research methods and statistics, understanding and conducting research, and program assessment and evaluation knowledge. 3 credits

610 COUNSELING SKILLS FOR TEACHERS
Prerequisite: 631 or 633 or permission. The study and practice of selected counseling techniques that can be applied by teachers in working with students, parents, and colleagues. 3 credits

620 ISSUES IN SEXUALITY FOR COUNSELORS
A seminar covering, in addition to changing current topics, sexuality across the lifespan, diversity and sexual orientation, and assessment. 3 credits

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. 3 credits

622 INTRODUCTION TO PLAY THERAPY
Prerequisite: enrollees in master's or doctoral program in counseling or related field, or special nondegree students (i.e., professional counselors). This course is designed to give students an introduction to play therapy from a child-centered perspective. Students will develop competencies in child-centered play therapy. 3 credits

623 MARRIAGE AND FAMILY COUNSELING/Therapy Ethics AND PROFESSIONAL IDENTITY
This course is designed to help students learn about marriage and family counseling/therapy as a distinct profession and about it's corresponding ethical codes. 3 credits

631 ELEMENTARY/SECONDARY SCHOOL COUNSELING
3 credits

635 COMMUNITY COUNSELING
Overview of community and college counseling services; their evaluation, philosophy, organization and administration. 3 credits

636 COLLEGE ADMISSION COUNSELING I
Through readings, websites, class activities, discussion, and experiential projects students will acquire the fundamental skills to assist counselors in teh college admission process. 3 credits

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. 3 credits

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. 3 credits
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>463</td>
<td>COUNSELING THEORY AND PHILOSOPHY</td>
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<tr>
<td>645</td>
<td>TESTS AND APPRAISAL IN COUNSELING</td>
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<td>665</td>
<td>MULTICULTURAL COUNSELING</td>
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<td>687</td>
<td>CAREER DEVELOPMENT AND COUNSELING ACROSS THE LIFE-SPAN</td>
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<td>688</td>
<td>INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN</td>
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<tr>
<td>710</td>
<td>THEORIES OF COUNSELING AND PSYCHOTHERAPY</td>
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<td>721</td>
<td>VOCATIONAL BEHAVIOR</td>
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<td>724</td>
<td>PRINCIPLES AND PRACTICE OF INDEPENDENT INVESTIGATION TESTING</td>
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<td>725</td>
<td>PROFESSIONAL, ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY</td>
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<td>726</td>
<td>ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY</td>
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<tr>
<td>730</td>
<td>MARRIAGE AND FAMILY THERAPY: THEORY AND TECHNIQUES</td>
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<td>733</td>
<td>PERSONALITY AND ABNORMAL BEHAVIOR</td>
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<td>735</td>
<td>SYSTEMS THEORY IN FAMILY THERAPY</td>
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<td>738</td>
<td>CLINICAL SUPERVISION II</td>
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<td>739</td>
<td>LEGAL AND ETHICAL ISSUES IN COUNSELOR EDUCATION</td>
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<td>740</td>
<td>PEDAGOGY IN COUNSELOR EDUCATION AND SUPERVISION</td>
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<td>DOCTORAL PROFESSIONAL COUNSELOR EDUCATION</td>
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<td>746</td>
<td>PRACTICUM IN COUNSELING</td>
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<td>INTERVENTION IN COUNSELING</td>
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<td>748</td>
<td>EXPERIMENTATION OF THE EFFECTIVENESS OF TECHNIQUES AND INSTRUCTION</td>
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<td>749</td>
<td>SUPERVISION IN COUNSELING PSYCHOLOGY</td>
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<td>SUPERVISION IN MARRIAGE AND FAMILY THERAPY</td>
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<td>751</td>
<td>OUTCOME RESEARCH</td>
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<td>752</td>
<td>COUNSELING CHILDREN</td>
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<td>753</td>
<td>ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES</td>
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<td>DSM</td>
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<td>770</td>
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<tr>
<td>771</td>
<td>DOCTORAL INTERNSHIP</td>
<td>3</td>
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</tbody>
</table>
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 CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS 3 credits
Prerequisite: 540. Survey of etiology, diagnosis, classification and development characteristics of intellectually gifted individuals.

547 INDIVIDUALS WITH MILD/MODERATE EDUCATIONAL NEEDS: CHARACTERISTICS AND IMPLICATIONS 4 credits
Survey of etiology, identification, classification, developmental characteristics and intervention strategies for individuals with mild/moderate educational needs.

548 INDIVIDUALS WITH MODERATE/INTENSIVE EDUCATIONAL NEEDS: CHARACTERISTICS AND IMPLICATIONS 4 credits
Prerequisite: 540. Survey of etiology, identification, classification, and developmental characteristics of individuals with moderate/intensive educational needs.

550 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD 3 credits
Prerequisite: 540. Developmental patterns of young children with disabilities and developmental/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 students 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 development of secondary level students with exceptional needs (20 field hours).

553 SPECIAL EDUCATION PROGRAMMING: MILD/MEASURABLE I 4 credits
Development of the programming strategies including assessment, intervention, and transition for mild/moderate/exceptional ability students.

554 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE I 4 credits
Advanced program for providing educational planning and intervention for individuals with moderate to intensive educational needs. Focus is on developing a comprehensive educational program which will facilitate optimum functioning and independence (20 field hours).

555 SPECIAL EDUCATION PROGRAMMING: MILD/MEASURABLE II 4 credits
Special educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age students with mild/moderate educational needs (20 field hours).

558 COLLABORATION AND CONSULTATION IN SCHOOLS AND COMMUNITY 3 credits
Prerequisites: 540 or 547, or permission of instructor. Provides professionals with skills in collaboration and consultation for working with parents of exceptional children 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 548. Developmental patterns of young children with moderate/intensive needs (ages 3-8) and developmentally appropriate practices in planning and adaptations (20 field hours).

564 ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD PSYCHOPATHOLOGY 3 credits
Prerequisites: 440/540 and 448/548. The assessment of children (three to eight) and their environment who are at risk for disabilities or currently in special education.

567 MANAGEMENT STRATEGIES IN SPECIAL EDUCATION 3 credits
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 and 568. Advanced techniques for remediating problematic behavior. Emphasis will be on developing effective reperitories 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-service teaching experience for students in the areas of assessment, program planning, instructional planning and presentation, classroom management, adaptations, and collaboration with parents and other educational professionals.

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 inputs. Writing will be exiting members of allied and cooperating professionals active in many area of exceptional children.

601 SEMINAR SPECIAL EDUCATION CURRICULUM PLANNING 3 credits
Prerequisite: permission of instructor. Study of curriculum planning practices unique to special education classes and services. Appropriate curriculum objectives for selected areas of instruction as well as effective organizational programs examined.

602 SUPERVISION OF INSTRUCTION 3 credits
Study of administration an 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 support services.

605 INCLUSION MODELS AND STRATEGIES 3 credits (3 field hours)
History, theory, philosophy, legislative mandates, models, strategies, curriculum modifications, modifications/adaptations which support the inclusion of students with disabilities. Emphasis on collaboration and teaching (3 field hours).

606 RESEARCH APPLICATIONS IN SPECIAL EDUCATION 3 credits
Prerequisite: permission of instructor. 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 CHARACTERSISTICS 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 disorders.

610 CHARACTERSISTICS AND NEEDS OF INDIVIDUALS WITH BEHAVIORAL AND EMOTIONAL DISORDERS 3 credits
This course provides a survey of the etiology, diagnoses, classification, and developmental and emotional disorders (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 S1070/520 or permission of instructor. A culminating seminar in special education designed to study, examine and reflect upon the legal aspects of historical and current trends, issues and practices.

612 SEMINAR: SOCIETAL ISSUES IN SPECIAL EDUCATION 3 credits
A culminating seminar for graduate students in special education designed to study, examine and reflect upon the social and ethical aspects of historical and current trends, issues and practices.

627 SPECIAL TOPICS IN SPECIAL EDUCATION 1-4 credits
Prerequisite: permission of advisor or department chair. In-depth examination of current critical issues in research on issues in special education.

630, 1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/SPRING 3 credits each
Specific area of investigation determined in accordance with student's needs.

631 MASTER'S PROBLEM 2-4 credits
In-depth study of a research problem in education. Student must be able to demonstrate critical research and analytical skills in dealing with a problem in special education.

632 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.
### 500: Field Experience: Master’s
Prerequisite: permission of instructor. Practical school psychology-related experience in school setting.

### 697: Independent Study
Prerequisites: permission of advisor and supervisor of the independent study. Documentation of specific area of investigation. Nature of the inquiry to be determined by student-supervisor agreement.

### 698: Master’s Problem
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.

### 699: Master’s Thesis
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 relation to specific topic.

### SPECIAL EDUCATIONAL PROGRAMS 5800:

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<thead>
<tr>
<th>Course Title</th>
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<tbody>
<tr>
<td><strong>WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES</strong></td>
<td>1-3</td>
</tr>
<tr>
<td>Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.</td>
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</table>

### Business Administration

#### ACCOUNTANCY 6200:

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>ADVANCED FINANCIAL REPORTING AND ANALYSIS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 622 or equivalent. Examination of accounting theory and financial reporting practices for business combinations, partnerships, foreign operations, nonprofit entities, and consolidated statements. Covers U.S. GAAP, IFRS, SEC reporting, and corporate financial reporting policy. Emphasizes professional accounting research. Includes a research component.</td>
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<tr>
<td><strong>CONTEMPORARY FEDERAL TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 621 or equivalent. Examines current federal tax law with an emphasis on individual taxes. Includes a research component. Master of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.</td>
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<tr>
<td><strong>BUSINESS ENTITY TAXATION</strong></td>
<td>3</td>
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<tr>
<td>Prerequisite: 530 or permission. Federal income tax law related to partnerships, corporations, trusts and estates, and includes an overview of federal estate and gift tax law. A research component. Master of Taxation students will not be able to take this course to satisfy tax electives in the Master of Taxation program.</td>
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<tr>
<td><strong>ACCOUNTING SERVICES AND PROFESSIONAL RESPONSIBILITIES</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 621 or equivalent. Examines assurance services including external auditing and professional responsibilities. Focuses on standards, professional ethics, and independence requirements and procedures used in conducting assurance services. Includes a research component.</td>
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<tr>
<td><strong>INFORMATION SYSTEMS AUDIT AND CONTROL</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 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.</td>
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<tr>
<td><strong>GOVERNMENTAL ACCOUNTING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 621 or equivalent. Theory and procedures involved in application of fund accounting in the state and local control, assurance services to governmental units, educational, medical, and other nonprofit institutions. Covers financial reporting for government and not-for-profit entities including GASB standards. Includes a research component.</td>
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<tr>
<td><strong>FINANCIAL ACCOUNTING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Introductory course for student with no accounting background. Examines accounting principles as applied to problems of financial firms.</td>
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<tr>
<td><strong>ACCOUNTING DECISION SUPPORT SYSTEMS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Introduction to basic financial statement information; coverage of databases, electronic spreadsheets, and other information technology tools that support accounting and assurance services.</td>
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</tr>
<tr>
<td><strong>FINANCIAL DATA COMMUNICATIONS AND ENTERPRISE INTEGRATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites: 6200:601 and 6500:601. In-depth study of contemporary methodologies, technologies, standards and models used to integrate business processes and systems, including XML and XBRL.</td>
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<tr>
<td><strong>PROCESS ANALYSIS AND COST MANAGEMENT</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites: 601, or 621, or permission of instructor. Investigates management accounting and control systems and the use of accounting information in cost management, risk assessment, planning, decision making, and performance evaluation.</td>
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</tr>
<tr>
<td><strong>ERP AND FINANCIAL DATA COMMUNICATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 603 or equivalent. Risk assessment and mitigation of ERP systems and integration of contemporary data communication technologies such as XML and XBRL into financial applications.</td>
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<tr>
<td><strong>CORPORATE ACCOUNTING AND FINANCIAL REPORTING I</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 601 or graduate accounting status. An examination of generally accepted accounting principles in theory and application, as well as financial statement preparation. Not open to students who have taken Intermediate Accounting I.</td>
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<tr>
<td><strong>CORPORATE ACCOUNTING AND FINANCIAL REPORTING II</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 621 or permission of instructor. A continuation of 6200:621 which examines generally accepted accounting principles in theory and practice, as well as financial statement preparation. Not open to students who have taken Intermediate Accounting II.</td>
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<tr>
<td><strong>FEDERAL TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Survey of federal taxation of entities, tax research, and individual taxation. Tax cases, projects, and problems will be assigned.</td>
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<tr>
<td><strong>TAX RESEARCH</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special admission. Designed to develop basic research competence involving federal income, estate, and gift tax laws.</td>
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<tr>
<td><strong>TAX CRIMES AND FORENSICS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites: 531 or 627 or equivalent or permission. In-depth study of tax and related crimes charged under provisions of the IRC code and titles 18 and 31 of the U.S. code.</td>
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<tr>
<td><strong>CORPORATE TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Detailed examination of tax problems of corporations and their shareholders. Formation, distribution, redemption, and liquidation.</td>
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<tr>
<td><strong>TAXATION OF TRANSACTIONS IN PROPERTY</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Examines federal tax implications of gains and losses derived from sales, exchanges and other dispositions of property.</td>
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</tr>
<tr>
<td><strong>ESTATE AND GIFT TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites: Admission to Master of Tax program or special permission. Analyzes provisions of federal estate and gift tax laws and tax consequences of testamentary and lifetime transfers.</td>
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</tr>
<tr>
<td><strong>CONTEMPORARY ACCOUNTING ISSUES</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Permission of instructor. Critical examination of contemporary issues and trends in accounting, including professional ethics and corporate social responsibility, standard setting process, regulatory compliance, and international issues.</td>
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</tr>
<tr>
<td><strong>ADVANCED AUDITING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 540 or equivalent or permission. Conceptual foundations and current research on professional and internal auditing. Includes government regulation and litigation, statistics, computer systems as well as current and prospective developments in auditing.</td>
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<tr>
<td><strong>TAXATION OF PARTNERSHIPS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Examines intensive provision of subchapters K and S of Internal Revenue Code and uses of partnerships for tax planning.</td>
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<tr>
<td><strong>CORPORATE TAXATION II</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 631 or special permission. Focuses on corporate reorganization; covers A, B, C, D, E, and F reorganizations, corporate split-offs and spin-offs, carryovers of tax attributes; and limitations on carryovers.</td>
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<tr>
<td><strong>TAX ACCOUNTING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Attention focused on accounting for income and expenses for individuals businesses and its relation to tax planning.</td>
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<tr>
<td><strong>INCOME TAXATION OF DECEDENTS, ESTATES AND TRUSTS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 633. An in-depth examination of the decedent’s last income tax return along with the analysis of income taxation of trusts and estates and their creators, fiduciaries and beneficiaries.</td>
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<tr>
<td><strong>ADVANCED INDIVIDUAL TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. In-depth study of some of the more involved areas of individual income taxation.</td>
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<tr>
<td><strong>CONSOLIDATED TAX RETURNS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 631. Intensive study of tax provisions concerning use of consolidated tax returns.</td>
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<tr>
<td><strong>QUALIFIED PENSIONS AND PROFIT SHARING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Nature, purpose and operation of various forms of deferred compensation examined with much emphasis on pension plans and profit-sharing plans.</td>
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<tr>
<td><strong>TAX PRACTICE AND PROCEDURE</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. In-depth study of administration and procedures of Internal Revenue Service and responsibilities of tax practitioners.</td>
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<tr>
<td><strong>STATE AND LOCAL TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Examines common types of taxes imposed by state and local governments and includes taxation of multistate businesses.</td>
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<tr>
<td><strong>Estate Planning</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 633. Considers entire process of planning the estate with due regard for dispositions of property, tax minimization, liquidity requirements and administrative costs.</td>
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<tr>
<td><strong>INTERNATIONAL TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>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.</td>
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<tr>
<td><strong>TAX-EXEMPT ORGANIZATIONS AND PLANNING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: Admission to Master of Tax program or special permission. Analysis of tax aspects of tax-exempt organizations, including nature of limitations and its exemption.</td>
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<tr>
<td><strong>INDEPENDENT STUDY IN TAXATION</strong></td>
<td>1-3</td>
</tr>
<tr>
<td>Prerequisite: permission of instructor. Intensive study of particular topic or limited number of topics not otherwise offered in curriculum. (May be repeated for a total of six credits.)</td>
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<tr>
<td><strong>ADVANCED INFORMATION SYSTEMS</strong></td>
<td>3</td>
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<tr>
<td>Prerequisites: 603 or equivalent and 690. Advanced study of accounting information system theory, elements, principles, design and implementation. Practical data processing and networks to control flow of information.</td>
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<tr>
<td><strong>ENTERPRISE RISK ASSESSMENT AND ASSURANCE</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 540 or equivalent or special permission. An examination of the risks, controls, and assurance services in contemporary organizations.</td>
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<tr>
<td><strong>ASSURANCE SERVICES AND DATA MINING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 603 or equivalent. Application of data mining and quantitative techniques to fraud risk assessment, error detection, financial distress, going concern, and information risk assessment.</td>
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</tr>
<tr>
<td><strong>ACCOUNTING AND ASSURANCE PROJECT</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites: 540 or equivalent, 658, or special permission. Comprehensive accounting and assurance project and a project management module completed in the final semester of the MSA program.</td>
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<tr>
<td><strong>S CORP TAXATION</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 631 or special permission. This course involves an in-depth study of Subchapter S of the Internal Revenue Code.</td>
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<tr>
<td><strong>CORPORATE PERFORMANCE EVALUATION AND CONTROL SYSTEMS</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 610. Investigation of the role of financial information systems in developing strategy, planning, measuring results, and motivating managers to define and pursue organizational goals and objectives.</td>
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<tr>
<td><strong>INTERNATIONAL ACCOUNTING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 610. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting problems.</td>
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</table>
FINANCE

538 INTERNATIONAL BANKING 3 credits
Prerequisite: 602 or permission. Examination of recent trends in the expansion of international banking activities and associated revenue maximizing strategies.

602 MANAGERIAL FINANCE 3 credits
Prerequisite: 620:601 or equivalent. Emphasis on management and planning 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. A study of major financial markets and financial institutions with an emphasis on the decision making processes within a rapidly changing, but regulated operating environment.

645 INVESTMENT ANALYSIS 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 TECHNIQUES OF FINANCIAL MODELING 3 credits
Prerequisites: 3250:600 and 6400:602. Current techniques and methods of financial analysis are examined, including the use of financial models for short and long run profitability decisions.

655 GOVERNMENT AND BUSINESS 3 credits
Public policy with regard to business institutions and issues are considered from an economic, legal, ethical, political perspective.

674 STRATEGIC FINANCIAL DECISION MAKING 3 credits
Prerequisite: 602. Examines the role of financial decision makers as strategic consultants to other functions and their interfusion with integrative risk management as a unifying theme.

678 CAPITAL BUDGETING 3 credits
Prerequisite: 602 or equivalent. Attempt to integrate various theories of capital budgeting into comprehensive conceptual schemes. Theoretical concepts and practical applications blended for better understanding of capital problems.

681 MULTINATIONAL CORPORATE FINANCE 3 credits
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational corporations. Comparative 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 the emerging e-commerce form of business with 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.

697 INDEPENDENT STUDY IN FINANCE 1-3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in finance on an independent basis.

MANAGEMENT

520 MANAGEMENT OF DATA NETWORKS 3 credits
Prerequisite: 601. Principles of the design and management of data networks for business and for international markets.

571 MANAGEMENT PROJECT 3 credits
Prerequisite: 670. Students develop skills in field-based management problem solving, project management, and requirements analysis under conditions of uncertainty in a collaborative interdisciplinary team environment.

580 INTRODUCTION TO HEALTH-CARE MANAGEMENT 3 credits
Prerequisite: Graduate standing. Introduces the concepts and the operations and strategies of health care organizations.

582 HEALTH SERVICES OPERATIONS MANAGEMENT 3 credits
Prerequisites: graduate standing and 590 or 600 or equivalent or permission of instructor. Application of the operations and systems analysis to health services organizations.

585 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION 1-3 credits
Prerequisite: permission of instructor. Special topics in health services administration (e.g., management of information technology, human resources and billing, and/or contemporary managerial organizational and policy/strategy issues as related to health-care organizations and health-care systems). Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required.

600 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR 3 credits
Course examines management principles, concepts, functions and process, as well as human behavior in organizations.

601 BUSINESS ANALYTICS AND INFORMATION STRATEGY 3 credits
Covers information systems foundations, strategic use of core analytical techniques including statistical analysis, data mining to enable firms to better compete.

602 COMPUTER TECHNIQUES FOR MANAGEMENT 3 credits
Introduction to the use of integrated spreadsheet software, database management software and the analysis and design of management information systems.

605 BUSINESS APPLICATIONS DEVELOPMENT 3 credits
The analysis and automation of standard business processes with examples from diverse business functions. Students will integrate these applications for business decision making.

608 ENTREPRENEURSHIP 3 credits
Prerequisite: Graduate standing. Students develop new products and work with entrepreneurially oriented businesses in the development of business plans that are presented to investors and entrepreneurs in local and international business plan competitions.

620 E-BUSINESS FOUNDATIONS 3 credits
Provides an understanding of the foundation of Electronic Business focusing on business and association issues.

622 E-BUSINESS TECHNOLOGIES 3 credits
Prerequisites: 602 or 620. This course provides a foundation in internet related technologies for successfully managing an e-business. Students will be required to design and implement a functional e-business prototype.

640 INFORMATION SYSTEMS AND IT GOVERNANCE 3 credits
Prerequisite: 601. Covers issues, strategies, tactics for managing organizational use of information technology and systems. Includes strategic alignment, project management, security, systems, and emerging technologies.

641 BUSINESS DATABASE SYSTEMS 3 credits
Prerequisite: 601. Introduction to underlying the analysis, design, implementation, and management of business databases.

642 ANALYSIS AND DESIGN OF BUSINESS SYSTEMS 3 credits
Prerequisite: 601. A hands-on treatment of the methods used to develop different types of business information systems.

644 KNOWLEDGE MANAGEMENT AND BUSINESS INTELLIGENCE 3 credits
Prerequisite: 612. The student will develop the skills necessary to apply business intelligence principles to solve business problems. Course may be repeated for a maximum of six credits.

645 SOFTWARE DEVELOPMENT AND QUALITY ASSURANCE 3 credits
Prerequisites: 601. Introduction to business software development and quality assurance. Students learn the process and practice of business software development.

650 HUMAN RESOURCE SYSTEMS FOR MANAGERS 3 credits
Prerequisite: 652. A broad survey of the fundamental principles, research findings, and practices related to the acquisition, development, maintenance and effective utilization of a business firm's human resources.

651 MANAGEMENT OF ORGANIZATIONAL TRANSFORMATION 3 credits
Prerequisite: 652. A comprehensive study of innovations in organizations designed to increase human satisfaction and productivity changes in human management.

652 MANAGING PEOPLE IN ORGANIZATIONS 3 credits
Prerequisite: 650. The configuration and implementation of Enterprise Systems to support the cross functional integration of business processes.

654 MANAGEMENT OF TELECOMMUNICATIONS RESOURCES 3 credits
Prerequisites: 620 or 620:603. An introduction to the use and management of telecommunication resources to support the activities of the organization.

655 HUMAN RESOURCE SYSTEMS FOR MANAGERS 3 credits
Prerequisite: 652. A broad survey of the fundamental principles, research findings, and practices related to the acquisition, development, maintenance and effective utilization of a business firm's human resources.

660 MANAGERIAL FINANCE 3 credits
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational corporations. Comparative management of working capital and permanent assets, return on investment and capital budgeting for the global firm.

673 QUALITY AND PRODUCTIVITY TECHNIQUES 3 credits
Examines the role of financial decision makers as strategic consultants to other functions and their interfusion with integrative risk management as a unifying theme.

678 CAPITAL BUDGETING 3 credits
Prerequisite: 602 or equivalent. Attempt to integrate various theories of capital budgeting into comprehensive conceptual schemes. Theoretical concepts and practical applications blended for better understanding of capital problems.

681 MULTINATIONAL CORPORATE FINANCE 3 credits
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational corporations. Comparative 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 the emerging e-commerce form of business with 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.

697 INDEPENDENT STUDY IN FINANCE 1-3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in finance on an independent basis.

695 FINANCE 6400: MANAGEMENT OF DATA NETWORKS 3 credits
Prerequisite: 602 or permission. Examination of recent trends in the expansion of international banking activities and associated revenue maximizing strategies. CAST: 580 INTRODUCTION TO HEALTH-CARE MANAGEMENT 3 credits
Prerequisite: Graduate standing. Introduces the concepts and the operations and strategies of health care organizations.
PROFESSIONAL 6700:

689 LEADING AND INFLUENCING 3 credits
The main topics of the course are authentic leadership and influence within collaborative structures. The emphasis of the course is on self-awareness and development of leadership and collaborative competencies.

691 PROFESSIONAL INTEGRITY 1 credit
This course is designed to examine the issues of integrity, ethics, and business social responsibility facing business professionals in today’s world of business globalization.

693 NEGOTIATIONS IN THE WORKPLACE 1 credit
This course introduces students to the skills necessary to successfully navigate career and life negotiations. Contexts covered include job interviews, job offers, and promotions. This course is taught from a practical perspective, with hands-on experience and interactions.

695 INTERNSHIP IN BUSINESS 1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and research papers required. Credit/noncredit.

696 SPECIAL TOPICS IN PROFESSIONAL DEVELOPMENT 1 credit
Special topics and current issues in the MBA Program Professional Core. May be repeated with a change of subject, not to exceed six credits.

698 COLLOQUIUM IN BUSINESS 1-3 credits
Prerequisite: permission of graduate director. Study of business administration through a seminar of several lectures in business research and practice. A broad range of topics in business research and issues will be discussed by guests, faculty and graduate students. May be repeated, but will not satisfy degree requirements Credit/noncredit.

INTERNATIONAL BUSINESS 6800:

506 INTERNATIONAL BUSINESS 3 credits
A basic course in international business which can also provide a platform for more specialized international business courses. Students mapping in IB are required to participate in an approved study abroad program. Foreign students must choose a country other than their home country to satisfy the study abroad requirement. Students will prepare and submit a detailed examination of the business environment visited.

605 INTERNATIONAL BUSINESS ENVIRONMENTS 3 credits
Prerequisite: 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 problems of marketing and implementing marketing strategies and tactics within complex and changing multinational organizations and international markets. A planning framework is emphasized.

685 MULTINATIONAL CORPORATIONS 3 credits
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 IN INTERNATIONAL BUSINESS 1-3 credits (May be repeated for a total of six credits) Prerequisites: graduate standing and permission of instructor. Focus on special topics of study and research in international business on an independent basis.

SPEECH-LANGUAGE PATHOLOGY AND AUDDIOLOGY 7700:

530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
(Not open to communicative disorders majors) Introduction to acquisition and development of comprehension and production of language—phonologically, semantically and syntactically. Relates language acquisition to perceptual development of child and looks at function of language in individual, family, and school.

540 AUGMENTATIVE COMMUNICATION 3 credits
Prerequisite: Graduate standing in speech-language pathology. Overviews augmentative communication systems—candids, symbol systems, devices, vocabulary, funding. Considers interdisciplinary issues in assessment/intervention.

545 MULTICULTURAL CONSIDERATIONS FOR AUDIOLOGISTS AND SPEECH-LANGUAGE PATHOLOGISTS 2 credits
Prerequisite: 7700:110 or graduate standing. This course introduces the multicultural considerations faced by audiologists and speech-language pathologists providing services to families and individuals with communication disorders.

552 CHILD, ILLNESS AND LOSS 3 credits
This course examines the phenomena of illness, loss and bereavement in modern society with a special emphasis on children and families.

553 FACILITATING SUPPORT GROUPS 3 credits
Theories, strategies and skills needed to facilitate support groups for children and for adults are studied using a variety of approaches including participation in a support group.

554 CHILD IN THE HOSPITAL 4 credits
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.

555 PRACTICUM EXPERIENCE IN A CHILD LIFE PROGRAM 3 credits
Prerequisite: 561 or permission of instructor. Field experience in a child life program and classroom activities including critical analysis of a currently functioning program and program administration.

560 SPEECH-LANGUAGE AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits
(Not open to communicative disorders majors) Nature, causes and treatment of speech, hearing and language disorders in public schools. Special reference to role of classroom teacher in identifying and referring student with suspected problems and in working with school clinician.
561 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL
SPEECH-LANGUAGE AND HEARING PROGRAMS
Prerequisite: Senior or graduate standing or permission. For clinicians who plan to work in public school systems. Covers program requirements and professional/ethical issues imposed by PS 94.442.

580 EARLY INTERVENTION FOR PRESCHOOLERS
Prerequisite: graduate status. This course explores models programs currently being offered to the three to five year old population, with and without disabilities at two different levels.

584 HOSPITAL SETTINGS, CHILDREN, AND FAMILIES
Prerequisite: Permission of instructor. Focus on work in a hospital as a major social institution. Introduces procedures and functions of the hospital; roles played by various hospital personnel plus nursing staff of communicative disorders, common childhood diseases, illnesses and injuries.

585 DEVELOPMENTAL DISABILITIES
Prerequisite: graduate status. Current practice related to clinical intervention designed for individual development disabilities. Explores the use of the natural environment and the computer as intervention tools.

590 WORKSHOP: SPEECH-LANGUAGE PATHOLOGY AND/OR AUDIOLOGY
(May be repeated for a total of four credits) Prerequisites: Group investigation of particular phase of speech pathology and/or audiology not offered by other courses.

589 CHILD LIFE INTERNSHIP
Prerequisite: Full admission into the program. Field experience in a child life program at an approved pediatric facility under the supervision of Certified Child Life Specialists.

610 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY
Prerequisite: Passed clinical and research instrumentation in speech and hearing.

611 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I
Prerequisite: Full admission to the SLP program or permission of the school director. Introduction to experimental design in communicative disorders.

620 ARTICULATION
Prerequisite: Full admission to the SLP program or permission of the school director. Historical background, current theories and research related to etiology, evaluation and treatment of articulation and phonological disorders.

623 SUPPORT SYSTEMS FOR INDIVIDUALS AND FAMILIES WITH COMMUNICATIVE DISORDERS
Prerequisite: Full admission to the SLP program or permission of the school director. Enhances students' abilities to interview, provide educational information, and create support systems with families with communicative handicaps and disorders.

624 NEUROGENIC SPEECH AND LANGUAGE DISORDERS
Prerequisite: Full admission to the SLP program or permission of the school director. Course presents current concepts and research related to neuroanatomical etiology, diagnosis, classification and treatment of adults with neurologically based communication disorders.

626 VOICE AND CLEFT PALATE
Prerequisite: Full admission to the SLP program or permission of the school director. 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
Prerequisite: Full admission to the program or permission of the school director. This course provides information and discussion on theories, classification, diagnosis, and treatment of fluency disorders.

630 TOPICS IN CLINICAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS
(May be repeated for a total of four credits) Prerequisite: Full admission to the SLP program or permission of the school director.

631 CLINICAL ISSUES IN CHILD LANGUAGE
Prerequisite: Full admission to the SLP program or permission of the school director. Presents current research perspectives on child language disorders and clinical methodologies in language assessment and intervention.

631 ACQUIRED BRAIN INJURY
Prerequisite: Full admission to the SLP program or permission of the school director. Introduces behavioral deficits, stages of recovery, assessment techniques, and principles of cognitive rehabilitation related to closed head injury.

632 DYSPHAGIA
Prerequisite: Full admission to the SLP program or permission of the school director. Outlines etiology, assessment, and treatment for infants, children, and adults with feeding and swallowing disorders (dysphagia). It provides actual experiences in diagnosis and feeding techniques.

633 PROFESSIONAL ISSUES
Prerequisite: Full admission to the SLP program or permission of the school director. 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
Prerequisite: Full admission to the SLP program or permission of the school director. Advanced information on hearing loss and concomitant communication problems with special emphasis toward the role of the audiologist.

650 ADVANCED CLINICAL PRACTICUM: SPEECH-LANGUAGE PATHOLOGY
Prerequisite: Permission of instructor. Focus on work in a hospital as a major social institution. Introduces procedures and functions of the hospital; roles played by various hospital personnel plus nursing staff of communicative disorders, common childhood diseases, illnesses and injuries.

650 ADVANCED CLINICAL PRACTICUM: SPEECH-LANGUAGE PATHOLOGY
1-6 credits

650 ADVANCED CLINICAL PRACTICUM: SPEECH-LANGUAGE PATHOLOGY
Prerequisite: Permission of instructor. Focus on work in a hospital as a major social institution. Introduces procedures and functions of the hospital; roles played by various hospital personnel plus nursing staff of communicative disorders, common childhood diseases, illnesses and injuries.

650 ADVANCED CLINICAL PRACTICUM: SPEECH-LANGUAGE PATHOLOGY
1-6 credits

659 SPECIAL PROBLEMS: SPEECH PATHOLOGY AND/OR AUDIOLOGY
1-3 credits
Prerequisite: Full admission to the SLP program or permission of the school director. (May be repeated for a total of six credits.) Guided research or reading in selected topics in speech pathology, audiology, or language disorders.

699 MASTER'S THESIS
(May be repeated for a total of six credits.) Prerequisite: permission of School Director.

701 BASIC AND APPLIED PHYSICAL ACOUSTICS FOR AUDIOLOGY
Prerequisite: Admission to the Au.D. program or permission of instructor. Study of physical acoustics, basic electricity and electronics, as well as principles, methodology, calibration and maintenance of auditory equipment.

702 ANATOMY AND PHYSIOLOGY OF THE PERIPHERAL AUDITORY AND VESTIBULAR SYSTEMS
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
Prerequisite: Admission to the Au.D. program or permission of instructor. Study of the acoustic phonetics, measurement, and nomenclature of speech sounds and theoretical and acoustic bases of speech perception (includes 1 credit hour lab).

704 CRITICAL ANALYSIS OF RESEARCH IN AUDIOLOGY I
4 credits
Prerequisite: admission to the Au.D. program or permission of instructor. General introduction to the research process with an emphasis on acquiring a reading knowledge of research and an ability to evaluate research.

705 AUDITORY DISORDERS
Prerequisite: admission to the Au.D. program or permission of instructor. Study of conditions/diseases that may affect the auditory system.

706 ANATOMY AND PHYSIOLOGY UNDERLYING NEURO-OTOLOGY
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 PSYCHACOUSTICS
3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of the principles, procedures, and research of psychocoustic; 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 ACOUSTIC ASSESSMENT
3 credits
Prerequisites: 702, 743. 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 AUDILOGIST
3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Examination of normal and abnormal aspects of speech and language including their impact on auditory function and habilitation.

712 DIAGNOSIS OF AUDITORY DISORDERS
3 credits
Prerequisite: 709. Underlying theory and principles of administration and interpretation of site-of-habilitation tests.

713 HEARING AID TECHNOLOGY
4 credits
Prerequisite: 701. Study of amplification systems for the hearing impaired.

714 GERONTOLOGICAL ISSUES IN AUDIOLOGY
3 credits
Prerequisites: 705 and 706. Study of auditory processing and habilitation/rehabilitation procedures for people having central auditory disabilities.

716 ADULT HEARING AID FITTING AND SELECTION
3 credits
Prerequisites: 713, 716, 717. Examination of current methodologies employed in the audiologic rehabilitation of the adult hearing impaired. Includes 1 credit hour lab.

717 PEDIATRIC AUDIOTOLOGY
3 credits
Prerequisite: 709. Study of audiologic diagnostic and auditory habilitation protocols for the birth to 3 population. Both assessment and management strategies will be emphasized.

718 COCHLEAR IMPLANTS
2 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of cochlear implants in children and adults including equipment, candidacy, mapping, and overview of reimbursement.

719 COUNSELING IN AUDIOLOGY
3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Focus on interviewing, counseling, and interacting with individuals with hearing impairments, their families, and significant others.

720 PEDIATRIC AMPLIFICATION
3 credits
Prerequisites: 713, 716, 717. The focus of study is on amplification systems and fitting techniques for the pediatric population.

721 EVALUATION AND MANAGEMENT OF BALANCE DISORDERS
3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of the balance mechanism; differential diagnostic assessment of balance disorders including electronystagmography, posturography and rotational testing; rehabilitation of the balance disorders (includes 1 credit hour lab).

722 AUDILOGIC MANAGEMENT OF THE SCHOOL-AGED CHILD
3 credits
Prerequisite: 717. Focus on educational audiology. Features delivery of audioligic services designed to address the educational needs of children ages 4-21.

723 AUDIOLOGIC REHABILITATION OF ADULTS
3 credits
Prerequisite: 716. Study of current methodologies employed in the audioligic rehabilitation of adults with hearing impairments. Implementation of remedial strategies is emphasized.

724 HISTORY OF AUDIOLOGY
1 credit
Prerequisite: admission to the Au.D. program or permission of instructor. An examination of the history of the field of speech/hearing impairment and the profession of audiology.

725 MEDICAL MANAGEMENT OF AUDITORY DISORDERS
2 credits
Prerequisites: 712, 716. A study of the multidisciplinary approach to medical/surgical management of patients with auditory and vestibular disorders.

726 ELECTROPHYSIOLOGICAL TECHNIQUES IN AUDIOLOGY
3 credits
Prerequisite: 706. Study of evoked responses used in diagnostic audiology, including ABR, MLR, ECochG, ENOG, ALR, P300, VER, and SSR.
686 SOCIAL WELFARE POLICY AND SERVICES: FAMILY AND CHILDREN 3 credits
Prerequisite: second level graduate student or permission of instructor. Examines the federal and state law, policies, and services governing children and families, including the supportive, supplemental and substantive aspects of services.

690 ADVANCED PRACTICE AND POLICY IN SUBSTANCE ABUSE 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides students with the knowledge and skill base necessary for managing and practicing with people involved in substance abuse, evaluating programs, and preventive work.

691 SOCIAL WORK VALUES AND ETHICS 3 credits
Prerequisite: full admission to the MSW program. This elective ethics course focuses on practical or applied ethics. Fundamentals of moral reasoning and ethical decision-making in social work practice are reviewed.

692 GROUP WORK PRACTICE 3 credits
Prerequisite: Full admission to the MSW program. Examines the fundamental knowledge and skills required for social work practice with groups across multiple client systems. Knowledge of social work values and ethics is applied as it relates to all aspects of group work. Dynamics of work with special populations will be emphasized (e.g. the effect of the addictive processes on group therapy, age-appropriate communication with children).

693 SPECIAL TOPICS FOR ADVANCED SOCIAL WORK PRACTICE 1-3 credits
Prerequisite: approval of the director. This course covers the role and responsibility of the Management RD/Food Service Director. Professional competencies are learned, leading to employment as an entry level dietitian.

695 HEALTH CARE: PLANNING AND POLICY ISSUES 3 credits
Prerequisite: second level graduate student or permission of instructor. This course is designed to orient students to the planning and policy issues in health care, and how social work practitioners can interface with health care.

696 EPIDEMIOLOGIC ANALYSIS OF HEALTH AND SOCIAL PROBLEMS 3 credits
Prerequisite: second level graduate student or permission of instructor. This course applies the epidemiological methods to social work practice, such as management of treatment groups, making administrative decisions, in planning and evaluation, and doing preventive work.

NUTRITION AND DIETETICS 7760:

500 NUTRITION COMMUNICATION AND EDUCATION SKILLS 4 credits
Prerequisite: Permission of advisor. Theory and development of communication and education skills essential to dietetics practice; interpersonal communication; interviewing; nutrition counseling; education techniques, media, and current technology.

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.

513 FOOD SYSTEMS MANAGEMENT II 3 credits
Prerequisite: Acceptance into the graduate program or permission of instructor. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.

514 FOOD SYSTEMS MANAGEMENT II CLINICAL 3 credits
Prerequisite: Acceptance CP program. Course: 513. This clinical increases experience and serves to present in depth the role and responsibility of the Management RD/Food Service Director. Professional competencies are learned, leading to employment as an entry level position.

524 NUTRITION IN THE LIFE CYCLE 3 credits
Prerequisite: Permission of instructor. Study of the physiological basis for nutritional requirements, interesting factors which affect growth, development, maturation and nutritional status from conception through the elderly years.

528 HUMAN NUTRITION I 3 credits
Prerequisite: Acceptance into the graduate program or permission of instructor. Corequisite: 543. Application of principles of nutrition, metabolism, and assessment. Analysis and interpretation of current literature.

529 NUTRITION IN MEDICAL SCIENCE II 3 credits
Prerequisite: Acceptance into the graduate program or permission of instructor. Emphasizing nutritional implications of more complex metabolic and pathological conditions as well as nutrition support strategies.

530 NUTRITION IN MEDICAL SCIENCE II CLINICAL 3 credits
Prerequisite: Admission to CP program. Corequisite: 528. Clinical experience in hospitals; application of principles of nutritional care.

543 NUTRITION ASSESSMENT 3 credits
Corequisite: 528 or permission. Application of principles of nutrition and assessment. Analytical and interpretive principles of nutrition. Open to dietitians majors only.

544 NUTRITION IN MEDICAL SCIENCE LONG TERM CARE - CLINICAL 2 credits
Prerequisite: CP graduate students only. Clinical experiences in long term care facilities for application of principles of nutritional care.

570 THE FOOD INDUSTRY: ANALYSIS AND FIELD STUDY 3 credits
Prerequisite: permission. Role of technology in extending the food supply. Chemical, physical and biological effects of processing and storage, on-site tours of processing plants.

574 CULTURAL DIMENSIONS OF FOOD 3 credits
An examination of cultural, geographical and historical influences on development of food habits. Emphasis on evolution of diets; effects of religion, education, gender roles, media.

576 DEVELOPMENTS IN FOOD SCIENCE 3 credits
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.

580 COMMUNITY NUTRITION I-LECTURE 3 credits
Prerequisite: Permission of instructor. Corequisite: 581. Socio-cultural aspects of community assessment, program development, implementation and evaluation, and rationales for nutrition services.

581 COMMUNITY NUTRITION I-CLINICAL 1 credit
Corequisite: 580. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care. Credit/Noncredit.

582 COMMUNITY NUTRITION II-LECTURE 3 credits
Prerequisite: 580 (CP 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; and educating the dietitians "various publics" about nutrition.

583 COMMUNITY NUTRITION II-CLINICAL 1 credit
Prerequisite: (CP students only) 581. Corequisite: 582. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care. Credit/Noncredit.

585 SEMINAR IN HEALTH PROFESSIONS 1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in health professions.

587 SPORTS NUTRITION 3 credits
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.

588 PRACTICUM IN DIETETICS 1-3 credits
Prerequisite: approval of advisor/instructor. Practical experience in application of the principles of nutrition.

590 PROFESSIONAL PREPARATION FOR DIETETICS 1 credit
Prerequisite: open to those students in the Didactic Program or graduate program who plan to apply for a Dietetic Internship. Historical aspects of dietetics and where the profession is going. Specialty areas of dietetic practice are explored. Students prepare the application for dietetic internship.

593 NUTRITION FOR ATHLETES 3 credits
Study of metabolism before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations.

604 ORIENTATION TO GRADUATE STUDIES IN HEALTH PROFESSIONS 1 credit
Introduction to the concepts and processes necessary for graduate study in health professions.

624 ADVANCED HUMAN NUTRITION I 3 credits
Prerequisites: undergraduate or graduate-level courses in nutrition and biochemistry. In-depth study of human nutrition emphasizing the role of major nutrients, and the role of minerals, vitamins and all the determinants of human requirements.

625 ADVANCED HUMAN NUTRITION II 3 credits
Prerequisite: 624 or equivalent in-depth study of human nutrition with emphasis on the utilization and physiological functions of selected nutrients.

632 ADVANCED FOOD THEORY AND APPLICATIONS 3 credits
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.

685 RESEARCH METHODS IN HEALTH PROFESSIONS 3 credits
A study of health sciences research methods emphasizing concept and theory development, quantitative and qualitative methodologies.

690 PRACTICUM IN NUTRITION AND DIETETICS 3 credits
Prerequisite: permission of advisor/instructor. A minimum of 150 hours of supervised experiential work in an approved community setting to acquire skills related to areas of specialization.

690 THERAPY RESEARCH/READING 3 credits
Prerequisite: permission of advisor. Supervised research and reading related to approved thesis 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 project which makes a significant contribution to the field and may lead to publication.

696 INDIVIDUAL INVESTIGATION IN NUTRITION AND DIETETICS 1-3 credits
Prerequisite: permission of advisor. Individual investigation and analysis of a specific topic in student's area of specialization of interest under direction of a faculty advisor.

698 MASTER'S THESIS IN HEALTH PROFESSIONS 5 credits
Prerequisite: permission of advisor. Supervised research in a specialized area of the health profession which makes a contribution to the field and may lead to publication.

NURSING 8200:

501 CLINICAL RESEARCH MANAGEMENT 3 credits
Corequisite: 590. This course is a discourse concerning the scope of responsibility for professionals coordinating and managing interdisciplinary clinical research, including clinical trial procedures.

509 INTERNATIONAL HEALTH 2-3 credits
Prerequisite: Admission to MSW program. A comparison of nursing roles and responsibilities in an international environment. The influence of education, ethics, government, demography, and geography on health care will be considered.

512 GLOBAL PERSPECTIVES OF HEALTH AND HEALTH CARE 2-3 credits
Prerequisite: Senior or graduate status. (May be repeated for a maximum of 6 credits) Cultural, political, educational, and economical perspectives of different regions of the world and the impact of these factors on health will be compared and examined.

550 SCHOOL NURSE PRACTICUM I 5 credits
Prerequisite: 50970:521, 523 and 8200:225 or 8200:225 or 6200:225 or 6200:625. Emphasis on clinical primary health care nursing to enhance positive health behavior outcomes of well children and adolescents with minor health problems.

556 SCHOOL NURSE PRACTICUM II 5 credits
Prerequisite: 50970:521, 523, 8200:225 or 6200:225. Emphasis on primary health care nursing to enhance positive health behavior outcomes of children/adolescents with minor common health or behavioral problems and chronic illnesses.

561 ADVANCED PHYSIOLOGICAL CONCEPTS IN HEALTH CARE I 3 credits
Prerequisite: admission to MSN program. This course presents an in-depth study of physiological processes in the areas of neurologic, neuromuscular and cardiovascular physiology and their interactions with therapeutic agents.

562 ADVANCED PHYSIOLOGICAL CONCEPTS IN HEALTH CARE II 3 credits
Prerequisite: 561. This course presents an in-depth study of physiological processes in the areas of respiratory, renal and endocrine physiology and their interaction with therapeutic agents.

566 SPECIAL TOPICS: NURSING 1-4 credits
May be repeated as new topics are presented) Group studies of special topics in nursing. May be repeated as new topics are presented.

568 WORKSHOPS 1-4 credits
May be repeated as new topics are presented) Selected topics in nursing. May be repeated as new topics are presented.

569 SPECIAL READINGS 1-4 credits
May be repeated as new topics are presented) May be repeated as new topics are presented.

574 PRINCIPLES OF NUTRITION AND DIETETICS 3 credits
Prerequisite: permission of advisor/Instructor. The role of nutrition in health and disease. Focus on the role of nutrition in disease prevention and health promotion.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Corequisites</th>
<th>Description</th>
</tr>
</thead>
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<tr>
<td>657</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING III</td>
<td>3 credits</td>
<td></td>
<td>Emphasis on advanced practice in primary health care using consultation and program development including logical-empirical-deductive and inductive approaches. Includes evaluation of advanced practice using consultation and program development. Focus is on integration of abnormal laboratory, radiologic and morphologic findings as they relate to advanced nursing practice. The course is designed to prepare the student for publication in peer-reviewed journals.</td>
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<td>658</td>
<td>CHILD AND ADOLESCENT HEALTH NP RESIDENCY</td>
<td>1-4 credits</td>
<td></td>
<td>Prerequisites/corequisites: Post-MSN CNH (Nurse Practitioner) program students--614, 620, 624. Opportunity for two to six credit hours. Transition to clinical scholar leader role with emphasis on epistemology guiding advanced practice. Integration of theory and evidenced-based practice principles to achieve health outcomes.</td>
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<td>659</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING IV PRACTICUM</td>
<td>2 credits</td>
<td>Prerequisites: admission to the Adult/Gerontological Nursing Practitioner track or the Post-MSN Adult/Gerontological track. Students choose clinical settings to develop expertise in providing complex care to selected populations and to advance career goals.</td>
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<td>660</td>
<td>INDEPENDENT STUDY</td>
<td>1-4 credits</td>
<td>Prerequisites: admission to the Adult/Gerontological Nursing Practitioner track or the Post-MSN Adult/Gerontological track. Students choose clinical settings to develop expertise in providing complex care to selected populations and to advance career goals.</td>
<td>Opportunity for two to six credit hours. Transition to clinical scholar leader role with emphasis on epistemology guiding advanced practice. Integration of theory and evidenced-based practice principles to achieve health outcomes.</td>
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<td>664</td>
<td>PSYCHIATRIC MENTAL-ACUTE, AP II PRACTICUM</td>
<td>2 credits</td>
<td>Prerequisites: 608, 610, 612. Focuses on common chronic and acute problems of adults in primary/tertiary care settings. Emphasis on promotion of health and well-being among individuals with serious mental illness.</td>
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<td>665</td>
<td>CHILD AND ADOLESCENT HEALTH NURSING-ACUTE CARE IV PRACTICUM</td>
<td>2 credits</td>
<td>Prerequisites: 612, 675, 678. Development of complex competencies integral to advanced practice in primary health care using consultation and program development. Focus on integration of abnormal laboratory, radiologic and morphologic findings as they relate to advanced nursing practice. The course is designed to prepare the student for publication in peer-reviewed journals.</td>
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<td>672</td>
<td>ADULT/GERONTOLOGICAL HEALTH NURSING CNS I</td>
<td>2 credits</td>
<td>Prerequisites: admission to Adult/Gerontological CNS track, 608, 610. Corequisite: 685, 686. Development of clinical competencies integral to advanced practice in primary health care using consultation and program development. Focus on integration of abnormal laboratory, radiologic and morphologic findings as they relate to advanced nursing practice. The course is designed to prepare the student for publication in peer-reviewed journals.</td>
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<tr>
<td>673</td>
<td>INSTRUCTURAL METHODS IN NURSING EDUCATION</td>
<td>3 credits</td>
<td>Prerequisites: admission to the Advanced Role Preparation in Nursing Education certificate program. Study of a variety of instruction methods used in nursing education. Includes teaching and learning methods used in classroom, laboratory, and clinical settings.</td>
<td>Opportunity for two to six credit hours. Transition to clinical scholar leader role with emphasis on epistemology guiding advanced practice. Integration of theory and evidenced-based practice principles to achieve health outcomes.</td>
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<td>676</td>
<td>CLINICAL PSYCHOPHARMACOLOGY</td>
<td>3 credits</td>
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<td>Prerequisites: admission to the Adult/Gerontological Nursing Practitioner track or the Post-MSN Adult/Gerontological track. Students choose clinical settings to develop expertise in providing complex care to selected populations and to advance career goals.</td>
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Polymer Science & Polymer Engineering

ELECTROMAGNETIC RADIATION

CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIAN

RHEOLOGY OF POLYMERIC FLUIDS

ANALYSIS AND DESIGN OF POLYMERIC PROCESSING OPERATIONS

ENGINEERING PROPERTIES OF SOLID POLYMERS

POLYMER ENGINEERING LABORATORY

POLYMER ENGINEERING SEMINAR

ANALYSIS AND DESIGN OF POLYMERIC PROCESSING OPERATIONS

ENGINEERING PROPERTIES OF POLYMERS

ENGINEERING PROPERTIES OF SOLID POLYMERS

POLYMER SCIENCE & POLYMER ENGINEERING

INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS

POLYMER ENGINEERING

525 INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS

527 MOLD DESIGN

550 ENGINEERING PROPERTIES OF POLYMERS

551 POLYMER ENGINEERING LABORATORY

601 PUBLIC HEALTH CONCEPTS

602 SOCIAL AND BEHAVIORAL SCIENCES IN PUBLIC HEALTH

603 EPIDEMIOLOGY IN PUBLIC HEALTH

604 BIOSTATISTICS IN PUBLIC HEALTH

605 HEALTH SERVICES ADMINISTRATION IN PUBLIC HEALTH

606 ENVIRONMENTAL HEALTH SCIENCES IN PUBLIC HEALTH

607 PUBLIC HEALTH PRACTICE AND ISSUES

610 GRANT WRITING IN PUBLIC HEALTH PRACTICE

615 INDEPENDENT STUDY

616 SPECIAL TOPICS IN PUBLIC HEALTH

617 INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS

618 SOCIAL AND BEHAVIORAL SCIENCES IN PUBLIC HEALTH

620 INTRODUCTION TO NURSING KNOWLEDGE DOMAINS

622 FOUNATIONS OF SCHOLARLY INQUIRY IN NURSING

625 QUANTITATIVE RESEARCH METHODS

636 ADVANCED INTERDISCIPLINARY LEADERSHIP FOR THE HEALTH SCIENCES

637 ADVANCED HEALTH CARE STATISTICS I

638 ADVANCED HEALTH CARE STATISTICS II

639 AMNR: APPLICATION OF QUANTITATIVE METHODS

640 NURSING SCIENCE SEMINAR I

641 AMNR: ADMINISTRATION OF QUANTITATIVE METHODS

642 AMNR: MEASUREMENT IN NURSING RESEARCH

643 AMNR: APPLICATION OF QUANTITATIVE METHODS

644 AMNR: PROGRAM EVALUATION IN NURSING

645 AMNR: GRANT DEVELOPMENT AND FUNDING

646 NURSING SCIENCE SEMINAR II

647 EVALUATION IN NURSING EDUCATION

648 PRACTICUM: ACADEMIC ROLE OF THE NURSE EDUCATOR

649 FIELD EXPERIENCE IN NURSING

650 Special Topics in NURSING

651 Individual Investigation in NURSING

652 Research in NURSING

653 Doctoral Dissertation
BASIC ENGINEERING FOR POLYMER ENGINEERS
3 credits
Basic concepts of polymer engineering taught in lecture-laboratory format intended for orientation of new graduate students.

POLYMER ENGINEERING LABORATORY
3 credits
Properties and structures of polymers, rubber and plastic extrusion, extrusion swell, injection and compression molding, crystallization behavior, x-ray diffraction, film blowing, impact and tensile testing.

POLYMER REACTION ENGINEERING
3 credits
Polymerization kinetics, classical reactor design, comparison of polymerization in batch and continuous stirred tank reactors, flow patterns around agitators, tubular reactors, reactor configuration.

CARBON-POLYMER NANOTECHNOLOGY
3 credits
Prerequisite: Permission of instructor. This course focuses on the fundamental aspects of nanotechnology in general and basic knowledge of polymerization nanoscience and nanotechnology in polymer.

POLYMER COATINGS
2 credits
Prerequisite: Permission of instructor. Instruction will be the synthesis of polymer coatings, including techniques of optical, electrical, magnetic, and others. A particular focus will be the influence of the history of processing on these properties.

MOLECULAR ASPECTS OF POLYMER RHEOLOGY
2 credits
Prerequisite: 621 or permission of instructor. Molecular theory for concentrated solutions and melts of flexible homopolymers, molecular theory of miscible polymer blocks, block copolymers, and third-order liquid polymers.

RHEOLOGY AND PROCESSING TWO-PHASE POLYMER SYSTEMS
2 credits
Prerequisite: 622 or equivalent. Particle-particle interactions, mixing devices and design, theoretical solution and microrheology of complex fluids, experimental studies of rheoviscosity, behavior, phenomenological theories representing suspension behavior, dispersion of droplets to form an emulsion, phase morphology development and theoretical properties of blends.

ADVANCED MODELLING OF POLYMER PROCESSING
2 credits
Prerequisite: permission of instructor. Modeling of processing operations including extrusion molding, fiber and film processing, computer-aided design.

RHEOLOGY AND PROCESSING OF ELASTOMERS
2 credits
Prerequisite: 621 or permission of instructor. Interpretation of theoretical properties and critical study and analysis of processing operations including behavior in internal mixers, screw extruders, die systems and vulcanization and molding.

ADVANCED EXTRUSION AND COMPOUNDING
2 credits
Prerequisite: permission of instructor. Operation and design of single and twin screw extruders, screw design, characteristics of internal mixers, analysis and simulation of flow.

CHEMORHEOLOGY AND PROCESSING OF THERMOSETS
2 credits

STRESS ANALYSIS OF POLYMERS AND COMPOSITES
2 credits
Prerequisite: 631 or 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.

PHASE TRANSITIONS IN POLYMER BLENDS AND ALLOYS
3 credits
Prerequisite: permission of instructor. Elucidating thermodynamics of polymer blend, block copolymers, crystal physics, crystalline polymers, and kinetics of phase transitions. Structure development and modeling of morphological and crystalline polymer blends.

INJECTION AND COMPRESSION MOLDING FUNDAMENTALS
2 credits
Prerequisite: permission of instructor. This course provides fundamental knowledge in physical, thermal, and rheological properties required for injection and compression molding including theoretical and experimental aspects of various molding processes.

POLYMER NANOCOMPOSITES
3 credits
Prerequisite: Permission of instructor. Introduces molecular simulation methods (Monte Carlo, molecular dynamics) and their application to polymer-related materials at the molecular and nanoscale level.

ADVANCED FUNCTIONAL POLYMERS
2 credits
Prerequisite: 611, 641, or permission of instructor. This course focuses on the recent development of functional polymers for applications as advanced materials and smart devices, which requires the attendance to possess some prior knowledge of polymer science and polymer engineering from such 600-level course(s) as mentioned above.

ADVANCED TOPICS IN POLYMER ENGINEERING
2-3 credits
Prerequisite: permission of instructor. Advanced special topics intended for Ph.D. students in polymer engineering.

PRELIMINARY RESEARCH
1-1.5 credits
Prerequisite: permission of instructor. Preliminary investigation of Ph.D. dissertation subject.

DOCTORAL DISSERTATION
1-1.5 credits
Prerequisite: Permission. Successful completion of Ph.D. qualifying exams. Original research by a Ph.D. candidate.

POLYMER SCIENCE
9871:

POLYMER CONCEPTS
2 credits
Prerequisite: Permission of instructor. Introduction to basic concepts in polymer science, including polymerization, copolymerization processes and nature of occurring polymers. Polymer nomenclature, definitions and classifications. Polymer stereochemistry and structure-property relationships.

SYNTHESIS AND CHEMICAL BEHAVIOR OF POLYMERS
2 credits
Prerequisite: 601 or permission of instructor. Introduction to fundamentals and practical aspects of polymer synthesis and reactions of polymers; general knowledge of laboratory and commercial methods for polymer production; practical examples.

SPECIAL PROJECTS IN POLYMER SCIENCE
1-3 credits
Prerequisite: Permission. Research projects of limited nature assigned to student entering polymer science program. Intended to familiarize student with typical problems and techniques in this field.

POLYMER SCIENCE SEMINAR I AND II
1 credit each
Prerequisite: limited to first and second-year resident graduate students. Participants are to present a 25-minute lecture on some aspect of polymer science and to participate in discussions of lectures presented by other seminar participants.

POLYMER SCIENCE LABORATORY
3 credits
Prerequisite: permission of instructor. Assists laboratories at least one of the courses 601, 631, 637, or 701, or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and testing of polymers.

LABORATORY COMPUTER APPLICATIONS IN POLYMER SCIENCE
3 credits
Prerequisites: Basic knowledge of computer programming and permission of instructor. Laboratory use of computers in polymer research for data acquisition, data analysis, graphing, preparation and reporting of tests and reports.

PHYSICAL PROPERTIES OF POLYMERS I
2 credits
Prerequisite: permission of instructor. Thermodynamic and molecular basis of rubber elasticity, time-dependent mechanical properties of polymer materials, melt-flow and elongation behavior; the morphology of crystalline polymers; fracture of polymers.

PHYSICAL PROPERTIES OF POLYMERS II
2 credits
Prerequisite: permission of instructor. Normal-coordinate theories of molecular motion and applications to time-dependent mechanical, electrical, and scattering properties of polymer systems; temperature-temperature superposition; free volume, WLF relation; fracture; glass transition.

POLYMER STRUCTURE AND CHARACTERIZATION
2 credits
Prerequisite: 310:113 and 310:181 or permission of instructor. Introduction to the statistical description of polymer molecular properties including chain polymerization and degradation, characterization of conformation, molecular weight, local structure, crystal structure and macromolecular architecture.

POLYMER THERMODYNAMICS
2 credits
Prerequisite: 674 or permission of instructor. Presentation of the theories and experiments concerning polymer solutions, polymer phase equilibria, and polynomial phase transitions and dilute solution steady-state transport.

MASTER'S THESIS
1-6 credits
Prerequisite: permission. For properly qualified candidate for master's degree. Supervised original research in polymer science, under direction of faculty member, followed by submission of thesis.

POLYMER TECHNOLOGY I
2 credits
Prerequisites: permission of instructor. Theory of compounding and testing, processing principles and types of operation, design principles.

POLYMER TECHNOLOGY II
2 credits
Prerequisites: permission of instructor. Rubber industry, rubber compounding and processing, vulcanization methods, physical testing, plastics preparation and compounding, manufacturing processes. Lecture/laboratory.

POLYMER TECHNOLOGY III
3 credits
Prerequisite: 702 or permission of instructor. Flow properties, extrusion, calendaring and rolling, molding, mixing, bond operations, engineering properties, rubber sponges, viscoelastic analysis design consideration. Lecture/laboratory.

CONDENSATION POLYMERIZATION
2 credits
Prerequisite: 350:463/563 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 applications and properties of polymers prepared by this technique. Structure-property relationships are highlighted for each major polymer class.

FREE RADICAL REACTIONS IN POLYMER SCIENCE
2 credits
Prerequisite: 340:463/563 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 polymerization and copolymerization, preparation of block and graft copolymers by free radical initiated reactions and the mechanisms of free radical induced polymer degradation reactions.

IONIC AND MONOMER INSERTION REACTIONS
2 credits
Prerequisite: 345/450/550/653/753 or permission of instructor. Covers the scope, kinetics and mechanisms of ionic and free radical initiated reactions encountered in polymer science and the uses and capabilities of free radical polymerization methods.

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.

SPECIAL TOPICS: POLYMER SCIENCE
2 credits
Prerequisite: permission. Topics of current interest in polymer science, encompassing chemistry, physics or technological aspects of macromolecular substances.

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. The Dean of the Graduate School shall expeditiously notify the complainant and the Department Chair, and shall serve through the adjudication and resolution of the complaint. The chairperson shall be selected by the Senior Vice President and Provost.

4. If the charged party in that grievance admits the validity of the grievance, the Academic Dean must provide a full written statement of the grievance, together with all relevant documents.

5. The burden of proof shall be on the complainant and the standards of justice shall be applied.

6. A Hearing Committee shall be established as follows:

   a. 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 one grievance proceeding. The Chairperson shall conduct the hearing and shall vote only in the case of a tie.

   b. Members – Four members shall be selected as follows:
      a. The student’s written statement of the grievance.
      b. Written notification of when and where the Hearing Committee shall meet.
      c. A copy of “Grievance Procedures for Graduate Students” and all relevant documents.

   3. Each party shall be required to appear in person before the Hearing Committee to present his/her case. Each party may have an advisor/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.

Appendices

University Rule 3359-24-02
http://www.uakron.edu/uogc/docs/24-02.doc
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., 20202-3887, (202) 260-9001, concerning any belief you may have that The University of Akron has failed to comply with the provisions of FERPA.

Release of Directory Information

The Family Educational Rights and Privacy Act of 1974 (FERPA) permits The University of Akron to release directory (public) information about students. Directory (public) information includes the student's name, local (mailing) address, telephone number, major field of study, participation in officially recognized activities and sports, the student's photograph, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous education agency or institution attended by the student.

Withhold Directory Information

If a student asks for directory information to be withheld, it will be withheld from a variety of sources, including friends, relatives, prospective employers, honor societies, the news media, and the commencement program. Students should carefully consider the consequences of a decision to withhold directory information.

Students may obtain a "DIRECTORY INFORMATION RESTRICTION REQUEST" form at http://www3.uakron.edu/registrar/DirInfoRel.doc or at the Office of the University Registrar.

Completed forms must be provided to the Office of the University Registrar more than ten (10) days prior to the starting date of the semester or summer session for instructions to be effective for that semester. Return to: Office of The University Registrar, The University of Akron, Akron, Ohio 44325-6298, or fax to (330) 972-6097.

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.

Questions of authorship are often best handled informally between potential joint authors.

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 must not use the information on other projects, nor may you discuss it with other individuals not involved with that project. While these commitments could delay public access to your thesis for a specified time, it will not delay acceptance or approval of your thesis/dissertation nor delay your graduation date.

The University and principal investigator must have written personal commitments from anyone working on a project involving and securing proprietary information. Therefore, all research students are required to execute the Confidentiality Agreement (sample form attached to this page). Prior to the start of your research, it is the responsibility of the research director to inform you in writing of any restrictions on the research with a copy also sent to the Office of Research Services and Sponsored Programs, if your research is subject to confidentiality provisions. You are also to be informed by the research director about the scope of the research that is covered by any confidentiality provisions.

If you have any questions as to what information is proprietary, seek guidance from your project’s principal investigator or your faculty research advisor.

Questions of Authorship and Inventorship

In the event you think you have been improperly omitted from the list of authors, you should first discuss the matter with your faculty advisor. If you have further questions or consider the matter unresolved, you should inform in the following order the appropriate department chair, the college dean, and finally the Dean of the Graduate School. (Questions are usually, and most quickly, resolved at the lowest administrative levels.)

In the event you think you have been omitted as an inventor on a patent application, you should first discuss the matter with your faculty research advisor and, thereafter, with your department chair and finally with your academic dean. Following such consultations, either you and/or your faculty advisor, or your department chair, or your dean can request the patent attorney who prepared the application to recheck the findings and then prepare a formal report on inventorship. The whole patent application file may then be referred to the Office of General Counsel for a re-evaluation of valid inventors. However such as re-evaluation by patent counsel shall only occur with the prior knowledge of your faculty advisor, Department Chair and Dean.

The University of Akron 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 advisor any invention conceived and/or reduced to practice by me whether jointly with others or solely, which results in whole or in part from such sponsored research or financially supported activity. I agree that I will comply with the provisions of any agreement between The University of Akron and any sponsor for any information and laboratory practice to which I am privileged to know. I will cooperate in assuring that the sponsor’s rights, including rights in inventions, patents, copyrights, are fully protected. Further, I hereby assign all rights, title and interest to The University of Akron for its disposal at its sole discretion.

3. I also acknowledge that certain technical information that may arise as a result of the sponsored research or supported activity may be of a confidential nature. I agree to be bound to the reasonable terms of any nondisclosure agreement as it has been agreed to by the University.

4. Finally, I acknowledge and agree that any rights which arise as a result of the sponsored research or supported activity belong to The University of Akron or to the sponsor as determined by agreement between The University of Akron and the sponsor.

Appendices
Directory

Board of Trustees

May 2012

MR. ROLAND H. BAUER (Term expires 2020)

JUDGE JANE E. BOND (Term expires 2017)

MRS. ANN AMER BRENNAN (Term expires 2012) - Serves as Chair

DR. CHANDER MOHAN (Term expires 2013)

MR. RALPH J. PALMISANO (Term expires 2019) - Serves as Vice Chair

MR. JONATHAN T. PAULOFF (Term expires 2016)

MR. RICHARD W. POGUE (Term expires 2015) - Serves as Vice Chair

MR. WARREN L. WOOLFORD (Term expires 2018)

MR. NICHOLAS C. YORK (Term expires 2014)

Student Trustees

MR. ALAN M. BOWDLER (Term expires 2013)

MS. KATHLEEN A. DUFF (Term expires 2012)

Officers of the Board

MR. TED A. MALLO, Vice President and General Counsel; Secretary to the Board of Trustees.

MR. PAUL A. HEROLD, Vice President and General Counsel; Secretary to the Board of Trustees.

President and Vice Presidents

September 2012

LUIS M. PROENZA, President of the University, Ph.D.

CANDACE E. CAMPBELL JACkSON, Vice President for Research and Dean of the Graduate School

JOHN A. LaGUARDIA, Ph.D., College of Engineering

George R. Newkome, Ph.D., College of Arts and Sciences: Social Sciences

CHAND MIDHA, Dean of the Buchtel College of Arts and Sciences, College of Arts and Sciences, Auburn Science and Engineering

Graduate Council

September 2012

GEORGE R. NEWKOME, Vice President for Research and Dean of the Graduate School. Chair

Term expires August 31, 2013

PHILLIP ALLEN, Ph.D., College of Arts and Sciences: 4A-Large

RICHARD LONDONVILLE, Ph.D., College of Arts and Sciences: Natural Sciences

JOHN GODDELL, Ph.D., College of Business Administration

MIEKO SMITH, Ph.D., College of Health Sciences and Human Services

LYNN SMOLEN, Ph.D., College of Education

Term expires August 31, 2014

GEORGE CHASE, Ph.D., College of Engineering

SHEA-HUEY CHIU, Ph.D., College of Nursing

XIN LIANG, Ph.D., College of Education

PRASHANT SRIVASTAVA, Ph.D., College of Business Administration

ERIC WASSERMAN, M.F.A., College of Arts and Sciences: Humanities

Term expires August 31, 2015

MICHAEL GRAHAM, Ph.D., College of Arts and Sciences: Social Sciences

ABRAMAH JOY, Ph.D., College of Polymer Science and Polymer Engineering

PHILIP THOMSON, M.M., College of Arts and Sciences: Arts

REBECCA KUNTZ WILSITS, Ph.D., College of Engineering

Graduate Faculty

September 2012

Luis M. Proenza, President: Professor of Biology; Adjunct Professor of Education; Adjunct Professor of Political Science (January 1999) B.A., Emory University; M.A., The Ohio State University; Ph.D., The University of Minnesota, 1971.

ALANA R. ABBA, Associate Professor of Civil Engineering (2005) B.S., University of Jordan; M.S., Ph.D., Washington State University, 2004.

MARIA ADAMOWICZ-HARIAZ, Associate Professor of Modern Languages (1995) M.A., Maria Curie-Sklodowska University, Poland; M.A., Ph.D., University of Pennsylvania, 1994.


AIGBE AKHIGBE, Professor of Finance, Frederick W. Moyer Chair in Finance (2000) B.S., University of Ibadan; M.S. University of Southwestern Louisiana; M.B.A., Ph.D., University of Houston, 2001.

PHILLIP ALLEN, Professor of Psychology; Senior Fellow, Institute for Life-Span Development and Gerontology (2000) B.S., M.A., Ph.D., The Ohio State University, 1987.


EMILY K. AESCICIO, Assistant Professor of Sociology (2009) B.S., M.S., Ph.D., University of California-Riverside, 2010.

STEVEN R. ASH, Associate Professor of Management, Interim Department Chair of Management (2001) B.A., M.B.A., Ph.D., New Mexico State University, 1996.

KENNETH E. AUPPERLE, Professor of Management (1986) B.A., M.A., Western Michigan University; M.B.A., Kansas State University; Ph.D., University of Georgia, 1982.

BRIAN P. BAGATO, Associate Professor of Biology: Bachelor of Science/Medical Doctor Coordinator (2001) B.S., Queen's University; M.S., Auburn University; Ph.D., University of North Texas, 2001.

HAMID B. BAHRAMI, Associate Professor of Electrical and Computer Engineering (2009) B.S., Sharif University of Technology; M.S., University of Tehran; Ph.D., McGill University, 2008.

DAVID B. BAKER, Margaret Clark Morgan Director of the History of American Psychology, Professor of Psychology (1996) B.A., Millersville State College; M.Ed., Southwest Texas State University; Ph.D., Texas A&M University, 1998.

WILLIAM E. BAKER, Professor of Marketing; Department Chair of Marketing (2010) B.A., Northwestern University; M.A., Ph.D., University of Florida, 1991.

BHANU BALASUBRAMNIAIN, Assistant Professor of Marketing (2012) B.S., University of Madras; M.B.A., Ph.D., University of Mississippi, 2008.


HAZEL A. BARNOT, Associate Professor of Biology; Associate Professor of Geology (2012) Ph.D., University of Colorado Health Sciences Center, 1997.

CELAL Batur, Department Chair of Mechanical Engineering, Professor of Mechanical Engineering (February 1980) B.Sc., M.Sc., The Technical University of Istanbul; Ph.D., The University of Leices-
ter, 1976.


MATTHEW L. BECKER, Associate Professor of Polymer Science (April 2009) B.S., Northwest Missour State University, M.A., Ph.D., Washington University, 2003.


FREDERIK BEUK, Assistant Professor of Marketing (2012) M.S., LL.M., Erasmus University Rot-
terdam; Ph.D., University of Illinois at Chicago, 2011.

KULDHIR S. BHATI, Assistant Professor of Education (2008) B.C., University of Bombay; M.B.A., University of Notre Dame; M.A., Boston College; Ph.D., University of Wisconsin, 2008.


WIESLAW K. BINIENDA, Professor of Civil Engineering; Department Chair of Civil Engineering (1989) M.S., Warsaw Technical University; M.S.M.E., Ph.D., Drexel University, 1995.

DIANA L. BIORDI, Associate Dean, Research and Graduate Programs in Nursing; Professor of Nurs-
ing (2008) B.S., Fairview Park Hospital; M.A., University of Illinois-Chicago; M.S.Nursing; Ph.D., Northwestern University, 1984.

TONI L. BISCONTI, Associate Professor of Psychology; Fellow, Institute for Life-Span Development and Gerontology (2006) B.S., Youngstown State University; M.A., University of Notre Dame, 1999.

TOOD ALAN BLACKLIDGE, Professor of Biology (January 2005) B.S., George Washington Uni-
versity; Ph.D., The Ohio State University, 2000.


JACQUELIN J. BOIT, Assistant Professor of Education (December 2010) B.Ed., Kenya University; Kenya; M.Ed., Ph.D., University of Massachusetts, 2010.


DALE S. BOROWIAK, Professor of Statistics (1980) B.S., M.S., The University of Akron; Ph.D., Bowling Green State University, 1980.

ACHTEN BOOTCH, Distinguished Professor of History (1990) B.A., Middlebury College; M.A., Ph.D., University of Chicago, 1976.


STEPHEN C. BROOKS, Associate Professor of Political Science; Associate Director, Ray C. Bliss Institute of Applied Politics (1982) B.A., Colorado College; M.A., Ph.D., Northwestern University, 1982.

ROSE M. BROUGHAM, Assistant Professor of Modern Languages (2008) B.A., M.A., Western Michi-
gan University; Ph.D. University of Colorado at Boulder, 2006.

SANDRA K. BUCKLAND, Professor of Family and Consumer Sciences (1999) B.A., M.A., The Uni-
versity of Akron; Ph.D., The Ohio State University, 1996.

The University of Akron 2012-2013

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<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
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<tbody>
<tr>
<td>ELISA B. GARGARELLA</td>
<td>Associate Professor of Art Education (2003) B.A., Denison University; Ph.D., Indiana University Bloomington, 1976.</td>
<td></td>
</tr>
<tr>
<td>RAY GEHANI</td>
<td>Associate Professor of Management and International Business; Fitzgerald Fellow; East Caribbean University; Marketing Center Fellow (1977) B.T., M.S., Indiana Institute of Technology; Ph.D., Tokyo Institute of Technology, 1981.</td>
<td></td>
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<tr>
<td>GEORGE C. GIASKER</td>
<td>Professor of Electrical and Computer Engineering; Associate Professor of Bio-medical Engineering (1946) B.A., University of Tunis; M.S., University of Edinburgh; M.S.; Ohio University; Ph.D., Marquette University, 1991.</td>
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<tr>
<td>JOHN A. HEMINGER</td>
<td>Associate Professor of Applied Mathematics (1984) B.S., University of Cincinnati; M.S.; Ph.D., Purdue University, 1974.</td>
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<tr>
<td>PATRICIA S. HILL</td>
<td>Associate Professor of Communication (1999) A.A., Cuyahoga Community College; B.A., M.A., Cleveland State University; Ph.D., Bowling Green State University, 1998.</td>
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<tr>
<td>ALAN JERNO</td>
<td>Assistant Professor of Philosophy (2007) B.A., University of Manitoba; M.A., D'Alton University; Ph.D., University of Western Ontario, 2008.</td>
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<tr>
<td>XIONG GONG</td>
<td>Assistant Professor of Polymer Engineering (2010) B.S., Northwest Normal University; M.S., Lanzhou University; Ph.D., Nanjing University PR-China, 1997.</td>
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<tr>
<td>JOHN W. GOODELL</td>
<td>Associate Professor of Finance (2008) B.S., University of Illinois; M.B.A., Miami University; M.C.I.S., Cleveland State University; Ph.D., Kent State University, 2008.</td>
<td></td>
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