

Calendar 2003-2004

F S 2003

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| Day and evening classes begin | Mon., Aug. 25 |
| *Labor Day (day and evening) | Mon., Sept. 1 |
| Spring 2004 graduation applications due | Mon., Sept. 15 |
| Veterans Day (classes held; staff holiday) | Tues., Nov. 11 |
| **Thanksgiving Break | Thu.-Sat., Nov. 27-29 |
| Classes resume | Mon., Dec. 1 |
| Final instructional day | Sat., Dec. 6 |
| Final examination period | Mon.-Sat., Dec. 8-13 |
| Commencement | Sat., Dec. 13 |
| Winter Intersession | Mon.-Sat., Dec. 15-Jan. 10 |

S S 2004

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| Day and evening classes begin | Mon., Jan. 12 |
| *Martin Luther King Day | Mon., Jan. 19 |
| Summer 2004 graduation applications due | Mon., Feb. 16 |
| *Presidents' Day | Tue., Feb. 17 |
| Spring Break | Mon.-Sat., Mar. 22-27 |
| Classes resume | Mon., Mar. 29 |
| Final instructional day | Sat., May 1 |
| Final examination period | Mon.-Sat., May 3-8 |
| Commencements | Sat.-Sun., May 8-9 |

S S I, II, III 2004

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| First 5- and 10-week Sessions begin | Mon., May 10 |
| Fall 2004 graduation applications due | Fri., May 15 |
| Commencement for School of Law | Sun., May 16 |
| *Memorial Day | Mon., May 31 |
| First 5-week Session ends | Sat., Jun. 12 |
| Second 5- & 10-week Sessions begin | Mon., Jun. 14 |
| *Independence Day | Mon., Jul. 5 |
| First 10- and second 5-week Sessions end | Sat., Jul. 17 |
| Third 5-week Session begins | Mon., Jul. 19 |
| Second 10- and third 5-week Sessions end | Sat., Aug. 21 |
| Summer Commencement | Sat., Aug. 21 |

*Classes cancelled (day and evening)

**Classes cancelled from Wednesday at 5 p.m. through Monday at 6:45 a.m.

For a copy of the *Undergraduate Bulletin* contact the Office of Admissions, The University of Akron, Akron, OH 44325-2001. 330-972-7100, or toll-free, 1-800-655-4884.

Inquiries

Address inquiries concerning:

Graduate study to the Graduate School, The University of Akron, Akron, OH 44325-2101. 330-972-7663.

Financial aid, scholarships, loans, and student employment to the Office of Student Financial Aid, The University of Akron, Akron, OH 44325-6211. 330-972-7032. Toll free 1-800-621-3847. Fax 330-972-7139.

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

Registration, scheduling, residency requirements, and veteran's affairs to the Office of the Registrar, The University of Akron, Akron, OH 44325-6208. 330-972-8300.

Undergraduate admissions information, campus tours, housing, and transfer of credits to the Office of Admissions, The University of Akron, Akron, OH 44325-2001. 330-972-7077 or toll-free inside Ohio, 1-800-655-4884.

The University switchboard number is 330-972-7111.

University Closing Policy

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

The Chief of Police will promptly notify other designated University officials and members of the Department of Institutional Marketing, 330-972-7820, who will contact area media. University colleges/departments/schools are

The *Graduate Bulletin* is a supplement to The University of Akron *Undergraduate Bulletin*. The *Undergraduate Bulletin* contains information on undergraduate degree programs, non-degree continuing education programs, and additional information on the policies of The University of Akron.

Important Phone Numbers

University Area Code (330)

All phone numbers are subject to change without notice.
For numbers not listed, call the University Switchboard 330-972-7111.
General Campus Information Center 330-972-INFO (4636)

Graduate School

Vice President for Research, & Dean, Graduate School
Dr. George R. Newkome 972-6458
Interim Director, Graduate Outreach Programs
Dr. Giannina D'Agruma 972-6266
Assistant to the Vice President for Research & Dean, Graduate School
Mrs. Dolli Quattrocchi Gold 972-6737
Senior Executive Administrative Assistant
Mrs. Cynthia S. Angerstien 972-6458
Administrative Assistant Senior
Ms. Heather A. Blake 972-7664
Coordinator, Graduate Student Financial Aid
Mrs. Karen L. Caldwell 972-6310
Examiner Associate
Ms. Elicia Calhoun 972-2411
Student Services Counselor
Ms. Jessica N. Fritz 972-5169
Student Services Counselor
Miss Brenda J. Henry 972-7665
Coordinator, Graduate Admissions
Ms. Theresa M. McCune 972-6405
Graduate Student Government
Billi F. Copeland 972-8233

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
Community and Technical College. 972-7220
College of Business Administration. 972-7040
College of Education 972-6970
College of Engineering 972-7816
College of Fine and Applied Arts. 972-7564
College of Nursing 972-7551
College of Polymer Science and Polymer Engineering 972-7500
The University of Akron-Wayne College 1-800-221-8308
NEOUCOM (Northeast Ohio Univ. College of Medicine) 325-25 Dean, Ge://www.uakron.edu/gradschu57u/gradsc
College of Nursing 9-8233Offnt STm(Colleges)T2-0Mbil@uakr(CoordOf)dw)/T1tudent Services Counselor
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P O C

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

The Campus

Currently, the Akron campus covers 216 acres and encompasses 77 buildings. Recent and continued growth with new academic, administrative, and recreational spaces, in addition to major renovations to existing buildings, are attributable to the current Master Plan, "A New Landscape for Learning."

LOCATION

The University is situated in a large metropolitan area. The campus, although centrally located within the City of Akron, features park-like pedestrian areas. Students have easy access to retail outlets, transportation, and churches. The University of Akron is located between East Market Street and East Exchange Street on the eastside of the downtown area. Akron is easily reached by automobile from major national east-west routes (Interstates 80, 90, 76, and the Ohio Turnpike) and north-south routes (Interstates 71 and 77), all of which link Akron to the surrounding states and regions. For airline passengers, limousine service is available from the Cleveland Hopkins International Airport located to the north and Akron-Canton Regional Airport, located to the south.

BUILDINGS

Many of the buildings on campus bear the names of prominent persons who are recognized for their contributions in administration, education, business, science, or University service. Major buildings include:

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

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

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 and has just opened a new \$3.6 million, 26,500 square foot addition to the existing Science Technology Library. The center also houses the College of Engineering Dean's office, the Engineering Co-op Office; Mechanical, Electrical, Chemical, and Civil Engineering; as well as the Department of Biology and Biology Research Facility.

Ayer Hall. Named for the first dean of the College of Engineering, Frederic E. Ayer, Ayer Hall provides classrooms and offices for the department of Physics and interim meeting space for Gardner Student Center.

Ballet Center. This center, located at 354 East Market Street, houses dance studios, a choreography laboratory, faculty offices, and offices for the School of Dance, the Ohio Ballet, and the Dance Institute.

Bierce Library. Named for General Lucius V. Bierce, an Akron mayor, lawyer, historian, state senator, philosopher, philanthropist, and soldier, the building opened in the spring of 1973. In addition to the book and periodicals collections, the facility houses audio-visual materials, maps, and microforms. University Libraries, including science and technology materials located in the Auburn Science and Engineering Center, have holdings of more than 2.8 million items.

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

Buckingham Center

Olson Research Center. This facility, adjacent to the new Polymer Engineering Academic Center on Forge Street, houses space for the Department and Institute of Biomedical Engineering and the Department and Institute of Polymer Engineering.

Physical Facilities Ope

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

The **Department of Physics** is located on the first three floors of Ayer Hall. Facilities include research laboratories used for faculty and student research projects, laboratories for experiments associated with coursework and several microcomputer labs for undergraduate and graduate student use. Most of the department's computers are networked. The department has an e-mail system and a web page (www.physics.uakron.edu/) for use by the faculty and physics students. Many instructors use this system to distribute course materials and entertain questions and feedback from students. The smallness of the department provides ample opportunity for interaction with all faculty members. This interaction combined with the laboratory space, computing facilities and reading room offers a diverse learning experience to the student in an attractive and hospitable environment.

The **Department of Political Science**

School Counseling, and Classroom Guidance for Teachers. The department also operates a multidisciplinary clinic, the Clinic for Child Study and Family Therapy.

College of Engineering

The offices, undergraduate laboratories, classrooms, research facilities, machine shops, computer laboratories, and other facilities of the **College of Engineering** are located in the Auburn Science and Engineering Center, Schrank Hall North, Whitby Hall, and the Olson Research Building. The current active research centers

controllers, as well as equipment for process control and robotics. The Smart Materials and Structure Laboratory has piezoelectric and shape memory based actuators, transducers, and the relevant control systems.

The Vibration and Acoustics Laboratory has electromechanical shakers, sound pressure level instrumentation, and frequency spectrum analyzers for modal analysis. The Metallography and Failure Analysis Laboratory has a complete set of metallographic 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 compounding/processing laboratories to serve the needs of industry and government agencies for a reliable source of problem solving and data. Processing laboratories include unique blending/compounding and molding facilities.

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

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

R. Byron Pipes, Ph.D., *Director*

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, wtylons@uakron.edu, or www.uakron.edu/centers/conflict.

H. Kenneth Barker Center for Economic Education

Fred M. Carr, Ph.D., *Director*

The center exists to improve the economic literacy of individuals to help them function competently as citizens, producers and consumers.

The center conducts workshops, seminars and economic programs for teachers, students and interested groups. It provides consulting services in the area of economic education and acts as a clearinghouse for the gathering and dissemination of economic education materials and programs. It also fosters an understanding and appreciation of the American economic system.

Center for Emergency Management and Homeland Security Policy Research

Nancy K. Grant, Ph.D., *Co-Director*

David H. Hoover, Ph.D., *Co-Director*

The agreement between The University of Akron and the Ohio Emergency Management Agency creates a model academic-public agency partnership for emergency management research in the United States. The intent and primary charge of the Center for Emergency Management and Homeland Security Policy Research (CEMHSPR) is the improvement of the practice of emergency management. The agenda for research pertaining to policy research projects and after action or response/recovery studies is agreed upon between OEMA and members of the CEMHSPR. Due to the nature of emergency management, projects must remain fluid to accommodate changes as they arise.

The Center for Emergency Management and Homeland Security Policy Research focuses on policy and its interaction with the function of emergency management. This policy analysis and research relates to contemporary Emergency Management questions/issues in the State of Ohio and nationally. Project areas include terrorism preparedness, business and industry continuity, disaster response, and recovery assessment as well as management practices relating to crisis and disasters.

Center for Environmental Studies

Ira D. Sasowsky, Ph.D., *Director*

The Center for Environmental Studies matches the expertise of 95 affiliates in 33 disciplines with the needs of students seeking study and research opportunities in complex environmental issues. Since its founding in 1970, the center has sponsored, or in other ways supported, activities appropriate to the goal of attaining a quality environment for mankind.

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

Center for Family Business

Susan C. Hanlon, D.B.A., *Director*

The Center for Family Business provides outreach activities to help business owners address problems unique to family enterprises. The Center seeks to increase the survival rate of family-owned businesses by focusing on the special challenges inherent in multigenerational family enterprises. For information, call 330-972-8201.

Center for Family Studies

Helen K. Cleminshaw, 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 confer-

ences and seminars, research and training, and public policy relevant to important family issues.

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

The Center offers certificates in the following specialty areas: Case Management for Children and Families; Divorce Mediation; and Home-Bases.

Center for Policy Studies

Jesse F. Marquette, Ph.D., *Director*

The Center for Policy Studies is an associated center of the Institute for Health and Social Policy.

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

The Center has responsibility for the administration of the Board of Regents Urban University Program (UUP) which links eight state universities to collaborate on the identification of significant urban problems and propose solutions designed to improve the urban regions of Ohio. The University of Akron Urban University Program, in addition to the collaborative mission of the Ohio UUP, encourages community oriented research and policy analysis through Partnership Grant Program. The Center also houses a State Data Center under the aegis of the Ohio Department of Development to provide Census and other data to appropriate agencies and coordinate geographic information system activities with the Department of Geography and Planning.

Center for Public Service Research and Training

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

The Center for Public Service Research and Training (CPSRT), newly established in 2002, is a division of the Institute for Health and Social Policy (IHSP), a multi-purpose research institute of the University of Akron. CPSRT evolved from the Center for Urban Studies, established at the University of Akron in 1967. CPSRT's mission is to assist the local and regional community in policy analysis and evaluation, applied research, professional service and the resolution of social, economic and public management problems. CPSRT offers its services to governments of all levels, to community foundations, to human service agencies and to community organizations.

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- Service delivery
- Technology transfer
- Policy

Most of the work conducted by the Institute is on behalf of government or non-profit agencies. Faculty and students have the opportunity to collaborate on research and evaluation projects of national significance.

The Institute also serves as an educational resource for students and the community for the most up-to-date social and health services research available and the latest advances in behavioral and social science research technologies.

Institute for Teaching and Learning

Thomas A. Angelo, Ed.D., *Director*

ness, inadequacy, guilt, anxiety, and depression; alcohol and drug use; recovery from acquaintance or stranger rape; interpersonal relationships, especially with the immediate family, intimate relationships, and roommates; personality development, issues of oppression, identity, and self-esteem.

- Educational counseling relates to educational goals, motivation, attitudes, abilities, and the development of effective study habits and skills.
- Group educational programs, through the College Survival Kit, cover a wide range of topics which typically deal with improving grades, reducing test anxiety, planning careers, increasing wellness, and addressing personal issues; as well as providing support groups for minority students and others with a variety of concerns. Brochures are available.
- Career counseling involves helping students make decisions on majors and career direction. It consists of discovering one's own interests, needs, values, aptitudes, abilities and goals; relating these to the world of work; exploring appropriate major subject and career fields. Interest, aptitude, personality and values testing is available through individual and group counseling. Occupational information is available through reference books and computerized career guidance and information systems.

Testing Service

- A wide range of testing programs including college entrance examinations, career assessments, personality assessments, academic placement testing and some learning disability assessments are available to students.

Outreach and Consulting Service

- The Center's outreach and consulting service offers assistance to the larger university community by providing programs and workshops for a wide variety of campus groups. The Center regularly provides speakers for classrooms, residence halls, student organizations, and administrative offices. Topics include, among others, academic performance, wellness, sexuality, and appreciating cultural diversity.

Center for Career Management

- From the moment students set foot on campus they have at their disposal a variety of career development opportunities through the Center for Career Management. Career development services are available to all majors and class levels. Students can attend career presentations and workshops focusing on office orientation, resume writing and cover letters, networking and interviewing techniques, and job search strategies. Students can also schedule individual career consultations with a career counselor or take advantage of daily walk-in consultations. Finally, students can access career resource materials in the form of career related books and periodicals, salary data, specific industry information, and current job opportunities.
- Career employment services for graduating students and alumni/ae include opportunities to participate in on-campus interviews with representatives from local, regional, national and international organizations in a variety of industries. Registration with CCM's online recruiting system is required prior to participation in interviews as well as search online job postings and to include a resume in the online resume books. In addition, the Center offers special employer mock interview workshops to students to assist in preparation for actual interviews. The Center for Career Management also sponsors, in collaboration with academic colleges, several career expos in the fall and spring semesters. Career expos allow students and alumni/ae the chance to network with hundreds of potential employers. For additional information, please call (330) 972-7747 or visit us online at www.uakron.edu/ccm.

Health Services

The goal of Health Services is to assist students to achieve their educational and personal goals by addressing their health care concerns while they are enrolled at The University of Akron. Health Services provides primary care, minor urgent care and health promotion education. Health Services is located in Robertson Dining Hall, immediately adjacent to the North Quad residence halls and is open from 8:00 a.m. to 5:00 p.m., Monday through Friday.

The student who becomes seriously ill or suffers a serious injury on campus should be taken to an emergency ward of one of the local hospitals without delay. Those persons present in this kind of emergency should call University Police or 911 immediately. The University assumes no legal responsibility or obligation for the expenses of such transportation or for medical services at the hospital.

Student Health and Accident Insurance, designed specifically for students, is required of all residence hall students and all international students except those who present proof of similar coverage. Other students may purchase this insurance at the annual individual rate. The student insurance provides coverage for such items as hospitalization, surgical benefits, and in-hospital medical benefits.

Completed health forms and other health-related records are treated as confidential and are kept in the Student Health Services offices. For more information, contact Health Services at 330-972-7808 or visit the office website at <http://www.uakron.edu/health/>.

Office of Accessibility

The University welcomes students with disabilities. The mission of the Office of Accessibility is to provide equal access opportunities to students with disabilities and coordinate academic accommodations, auxiliary aids, and programs to enable students with disabilities to maximize their educational potential. The office encourages students to contact them to find out more about the programs and services. For more information, call 330-972-7928 (voice) or 330-972-5764 (TTY) or visit the Student Administrative Services Building, Room 125.

Center for Child Development

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

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

A summer program is also offered for school-aged children. This program is offered for 10 weeks from 7:30 a.m. until 6:00 p.m.

For more information call the Center for Child Development, 330-374-8210.

The Student Union

The Student Union, located in the center of campus, serves the students, faculty, and staff, and is one of the University's major assets in meeting the University-wide goal of public service. This busy facility houses various food service facilities, meeting rooms, a movie theater, Computer Solutions—The University of Akron's com-

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| EMS/Medical | 911 |
| Electrical/Plumbing..... | 7415 |
| Hazardous Materials..... | 8123 |
| Closing Information | 7669 |

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

Graduate School

George R. Newkome, Ph.D., *Vice President for Research and Dean*

OBJECTIVES

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

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

Nature of Graduate Education

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

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

History of the Graduate School

Graduate study began a few years after Buchtel College opened its doors, and the first earned master's degree was conferred in 1882. The College of Education awarded its first master's degree in 1924, the Colleges of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1979. The School of Speech-Language Pathology and Audiology (previously the Department of Speech and later, the School of Communicative Disorders), now housed in the College of Fine and Applied Arts, was formerly a part of the Buchtel College of Arts and Sciences and conferred a master's degree in 1963. The first earned doctoral degrees were conferred in 1959. Professor Charles Bulger was appointed first dean of graduate work in 1933, and he continued in that capacity until 1950. Professor Ernest H. 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. Brintnall was appointed dean of Graduate Studies and Research in 1967 being succeeded in 1968 by Dr. Edwin L. Lively. Dr. Claibourne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. 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, nursing, polymer science, psychology, secondary education, sociology, and urban studies and public affairs. The Doctor of Education degree is offered in educational administration. The Doctor of Philosophy programs in nursing and sociology are joint programs with Kent State University. The Doctor of Audiology (Au.D.) Program is a joint degree program administered by The University of Akron and Kent State University. The Doctor of Philosophy program in urban studies and public affairs is a joint program with Cleveland State University. Further, the school also offers programs of study

leading to master's degrees with majors in diverse areas as delineated in the following pages.

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

Graduate Faculty and the Graduate Council*

The graduate faculty is comprised of those members of the faculty who hold appointments at the rank of assistant professor or above and teach graduate courses, supervise theses and dissertations and are generally responsible for the content 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,

imum acceptable level of performance. Information and procedure may be obtained from the chair of the appropriate department.



All students are identified by the Graduate School as being in one of the following categories. Any change must be arranged through the Graduate School.

- *Full Admission* may be given to any applicant who desires to pursue a graduate degree and has a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better or 3.00 for the last two years (64 semester credits or equivalent); or holds an advanced degree from an accredited college or university in or appropriate to the intended field; or holds a baccalaureate or master's degree from a foreign college or university with first-class standing or its equivalent, plus satisfactory evidence of competence in English. Full admission may also be granted to applicants to the College of Business Administration who meet the college's admission requirements.
- *Provisional Admission* may be granted to a person who has not met all of the requirements for full admission (2.74-2.5 overall GPA or 2.75 over the last two years). This admission status permits a student to take up to 15 semester credits of graduate coursework. Graduate courses taken under this admission status may be applied to a graduate degree program, but only when all requirements for *full admission* have been met.
- *Deferred Admission* may be granted if the applicant's record does not meet provisional admission standards. After completion of a postbaccalaureate program of study, with an appropriate GPA, as prescribed by the department (usually two to five courses), the student may be reconsidered for provisional admission to the Graduate School. Graduate-level coursework cannot be taken by a student under the *deferred* admission status.
- *Non-Degree Admission* may be granted to a person who wishes to take particular courses but who is not working toward a graduate degree. This admission status permits a student to take unlimited credits of graduate coursework. Graduate courses taken under this admission status may be applied later to a graduate degree program, but only when all requirements for *full* admission have been met.
- *Special Workshop* status is for a person permitted to take workshops for graduate credit without being admitted to Graduate School. Such permission is granted by the workshop director upon receipt of a signed statement of possession of a baccalaureate degree by the applicant, and terminates upon completion of this workshop. A student admitted to special workshop status must apply through

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

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

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Colloquium, Seminar, 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

2. "Financial support" as used in this rule, shall not include grants, scholarships, and awards from persons or entities which are not related to the recipient.
3. An "institution of higher education" as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the state of Ohio.
4. For the purpose of determining residency for tuition surcharge purposes at Ohio's state-assisted colleges and universities, "domicile" is a person's permanent place of abode; there must exist a demonstrated intent to live permanently in Ohio, and a legal ability under federal and state law to reside permanently in the state. For the purpose of this policy, only one (1) domicile may be maintained at a given time.
5. For the purpose of determining residency for tuition surcharge purposes at Ohio's state-assisted colleges and universities, an individual's immigration status will not preclude an individual from obtaining resident status if that individual has the current legal status to remain permanently in the United States.

C. Residency for subsidy and tuition surcharge purposes

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

1. A dependent student, at least one of whose parents or legal guardian has been a resident of the state of Ohio for all other legal purposes for 12 consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.
2. A person who has been a resident of Ohio for the purpose of this rule for at least 12 consecutive months immediately preceding his or her enrollment in an institution of higher education and who is not receiving, and has not directly or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
3. A dependent child of a parent or legal guardian or the spouse of a person who, as of the first day of a term enrollment, has accepted full-time self-sustaining employment and established domicile in the state of Ohio for reasons other than gaining the benefit of favorable tuition rates. Documentation of full-time employment and domicile shall include both of the following documents:
 - a. A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that parent or spouse of the student is employed full-time in Ohio.
 - b. A copy of the lease under which the parent or the spouse is the lessee and occupant of rented residential property in the state; a copy of the closing statement on residential real property located in Ohio of which parent or spouse is the owner and occupant; or if parent or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that parent or spouse resides at that residence.

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

1. Criteria evidencing residency:
 - a. if a person is subject to tax liability under Section 5747.02 of the Revised Code;
 - b. if a person qualifies to vote in Ohio;
 - c. if a person is eligible to receive state welfare benefits;
 - d. if a person has an Ohio driver's license and/or motor vehicle registration.
2. Criteria evidencing lack of residency:
 - a. if a person is a resident or intends to be a resident of another state or nation for the purpose of tax liability, voting, receipt of welfare benefits, or student loan benefits (if the loan program is only available to residents of that state or nation);
 - b. if a person is a resident or intends to be a resident of another state or nation for any purpose other than tax liability, voting or receipt of welfare benefits.

E. Exceptions to the general rule of residency for subsidy and tuition surcharge purposes.

1. A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education.
2. A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.
3. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.

4. A person who is transferred by his or her employer beyond the territorial limits of the 50 states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.
5. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

F. Procedures

1. A dependent person classified as a resident of Ohio for these purposes (under the provisions of Section C.1. of this rule) and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the state of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.
2. In considering residency, removal of the student or the student's parents or legal guardian from Ohio shall not, during a period of 12 months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraphs C.1. or C.2. of this rule.
3. For students who qualify for residency status under C.3., residency status is lost immediately if the employed person upon whom resident student sta-

| | |
|--|--------------------------|
| Second Semester | \$10,000.00 |
| Third Semester | \$15,000.00 |
| Application Fee | \$120.00 |
| <i>Master of Public Health Program</i> | |
| Tuition and fees | \$368.00 per credit hour |
| Parking | \$25.00 per semester |
| <i>Joint Ph.D. in Nursing Program (UA and KSU)</i> | |
| Tuition and fees | \$322.00 per credit hour |
| Non-resident surcharge | \$246.00 per credit hour |
| Dissertation fee: | |
| Dissertation I (1-15 credits per semester; maximum 30 cr.) | \$129.00 per credit hour |
| Dissertation II (flat rate) | \$15.00 |
| <i>Doctor of Audiology (Au.D.) (UA and KSU)</i> | |
| Tuition and fees | \$334.00 per credit hour |
| Non-resident surcharge | \$293.00 per credit hour |
| <i>Parking Permit Fee</i> | |
| Per semester, Fall and Spring (enrolled for any number of credits) | \$110.00 |
| Summer Session (one permit good for all sessions) | \$75.00 |
| Workshop participants | \$3.00 per day |
| <i>Other Fees</i> | |
| Course materials fees – assessed for selected courses to cover the cost of instructional materials. Consult the Registrar's Office or the appropriate college, department or school regarding specific course material fees for classes. | |
| Thesis, dissertation, and binding fees (payable at time of application for degree) | |
| – binding per volume | \$9.50 |
| – microfilming (Ph.D./Ed.D. only) | Up to \$70.00 |
| Copyright fee | Up to \$45.00 |
| (payable at time of application for degree if copyright is sought) | |
| Graduate Foreign Language Reading Proficiency Exam | \$50.00 |
| Miller Analogies Test (Counseling, Testing, and Career Center) | \$45.00 |
| Late graduation application fee | \$100.00 |
| Late registration fee: | \$100.00 |
| (charged to students who have not registered for classes by the first day of the semester) | |
| Late registration fee: | \$50.00 |
| (charged to students who have not registered for classes by the first day of the Summer Session) | |

SECTION 3. Academic Requirements

MASTER'S DEGREE
REQUIREMENTS

Admission

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

SECTION 4. Graduate Studies

Buchtel College of Arts and Sciences

Roger B. Creel, Ph.D., *Dean*

William A. Francis, Ph.D., *Associate Dean*

Devinder M. Malhotra, Ph.D., *Associate Dean*

Charles B. Monroe, Ph.D., *Associate Dean*

R 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.

| | <i>Credits</i> |
|---|----------------|
| - Psychology core courses (610, 620, 630, 640, 650) | 10 |
| - Counseling psychology core courses (707, 709, 710, 711, 712, 713, 714, 715, 717) | 33 |

- Complete a doctoral-level course in statistics from the predetermined group of courses. (see the department's graduate student handbook).
- Complete a specialty of 9 to 12 credits, depending on the specialty chosen.
- Complete a minimum total of 30 credits in coursework.
- Comprehensive Examination in theory, methods and statistics, and a specialty area (medical sociology, sociology of family, social psychology, or social inequalities).
- Full residency requirement of the Graduate School.
- Register for a minimum of 30 credits of dissertation credit, complete a dissertation and successfully defend it in an oral examination.

D **R** ()

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

- Completion of the M.A. core coursework.
 - Completion of a research practicum (three credits). This may be waived for the student who already has sufficient research experience.
 - Completion of a minimum of 60 credits of graduate-level (600 or higher) coursework beyond the bachelor's degree.
-

M . . . S . . . T . . . O . . . 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.
- The student's advisory committee may require the demonstration of reading proficiency in a foreign language appropriate to the field of study.

A minor may be taken in approved graduate courses including education. Summer study at a biological station is available.

T . . . O . . . II

This program is intended for Medical Doctors and Doctors of Osteopathic Medicine who have graduated from an accredited U.S. medical school.

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

N . . . O

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

Economics

M A **T O**

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.

N O

A minimum of 30 credits of coursework is required. At least 21 credits must be at the 600 level in economics. The individual must also specialize in an area.

Required Courses for both options:

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

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

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

English

M A , L T **T O**

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.

N O

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.

R C B O

| | |
|----------|------------------------------------|
| 3300:506 | Chaucer† |
| 3300:570 | History of the English Language† |
| | or |
| 3300:670 | Modern Linguistics† |
| 3300:615 | Shakespearean Drama† |
| 3300:691 | Bibliography and Literary Research |

ing 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.

E S
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.

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

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

| | | |
|--------------|---|----|
| 3370:101 | Introductory Physical Geology | 4 |
| 3370:210 | Geomorphology | 3 |
| 3370:350 | Structural Geology | 4 |
| 3450:221,2,3 | Analytical Geometry Calculus I, II, III | 12 |
| 4300:201 | Statics | 3 |
| 4300:202 | Introduction to Mechanics of Solids | 3 |
| 4300:313 | Soil Mechanics | 3 |
| 4300:314 | Geotechnical Engineering | 3 |

• Required courses:

| | |
|------------------------------|----|
| Graduate Geology Courses | 18 |
| Graduate Engineering Courses | 8 |

E G
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

M A

• 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;

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 out-

R O

Satisfactory completion of 32 semester credits of which at least 21 must be at the 600 level or higher in sociology (excluding 3850:699, 3850:697, 3850:698 and 3850:696). In meeting these requirements the student must

- Complete four required core courses with at least a 3.00 grade-point average:

| | | |
|----------|--------------------------------------|---|
| 3850:601 | Proseminar in Sociology | 1 |
| 3850:604 | Research Design and Methods | 3 |
| 3850:706 | Multivariate Techniques in Sociology | 3 |
| 3850:722 | Early Sociological Thought | 3 |

- Complete at least six hours of Master's Research Paper work (3850:696). No more than six credits will count toward the degree, but a student may register for more than six (6) hours.
- Completion of Master's Research Paper and successful oral defense of paper.

Spanish

M A

- Thirty-two semester credits of graduate work which may include a thesis amounting to four credits.
- Requirement: proficiency level in listening comprehension, speaking, reading, and writing Spanish.
- Final comprehensive examinations: the candidate will be required to submit an essay, and pass an oral exam on the essay.

Statistics

M S S

- Entrance into the program will require the initial completion of the following prerequisites:

| | |
|--------------|--|
| 3450:223 | <i>Analytic Geometry-Calculus III</i> , four credits; or equivalent. |
| 3450:312 | <i>Linear Algebra</i> , three credits; or equivalent. |
| 3470:461/561 | <i>Applied Statistics I</i> , four credits; or equivalent. |

- Core curriculum:

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

S C S (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 | Data Base Management | 3 |
| 3470:580 | Statistical Data Management | 3 |
| | Total | 12 |

T (30 credits of graduate work)

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

Successful completion of the comprehensive examinations in the core curriculum.

N (33 credits of graduate work)

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

Successful completion of the comprehensive examinations in the core curriculum.

Theoretical and Applied Mathematics

M S M

Goals: The program is designed to give students a solid foundation in graduate-level mathematics, provide hands-on experience in problem-solving and the uses of technology, and to allow returning mathematics teachers to upgrade their qualifications.

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

- Core requirements:

| | | |
|----------|-------------------------|---|
| 3450:510 | Advanced Linear Algebra | 3 |
| 3450:512 | Abstract Algebra II | 3 |
| 3450:522 | Advanced Calculus II | 3 |

| | | |
|----------|---|---|
| 3450:611 | Topics in Algebra | 3 |
| 3450:621 | Real Analysis | 3 |
| | or | |
| 3450:625 | Analytic Function Theory | 3 |
| 3450:636 | Advanced Combinatorics and Graph Theory | 3 |
| 3450:692 | Seminar in Mathematics* | 2 |
| | 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 |

- Electives: 9-13 credits

T O

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

N O

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

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

M S A M

Completion of a placement process prior to the beginning of classes in the student's first semester in the program. This process will consist of a review by a graduate faculty subcommittee of the student's competency in Advanced Calculus I and II (3450:521,2) and of his or her background in at least one junior-level or higher course in engineering or physics. If the student fails any part of this review, then that course will be added to the required courses for the student and the total number of credits required for the degree will reflect this.

- Core:

| | | |
|------------|--------------------------------------|-----|
| 3450:510 | Advanced Linear Algebra | 3 |
| 3450:621 | Real Analysis | 3 |
| 3450:625 | Analytic Function Theory | 3 |
| 3450:6278 | Advanced Numerical Analysis I, II | 6 |
| 3450:633,4 | Methods of Applied Mathematics I, II | 6 |
| 3450:692 | Seminar in Mathematics | 1-3 |

T O (30-39 . . .)

In addition to the placement review and core requirements, 3-5 credits of approved 500/600 level courses in mathematics (3450), statistics (3470), or computer science (3460), and 2-4 credits in 3450:699 *Master's Thesis* must be completed. Any graduate-level course may be substituted as an elective provided that this is approved beforehand by the student's advisory committee.

N O (33-42 . . .)

In addition to the placement review and core requirements, 10 credits of approved 500/600 level courses in mathematics (3450), statistics (3470), or computer science (3460), must be completed. Any graduate-level course may be substituted as an elective provided that this is approved beforehand by the student's advisory committee. Additionally, the student must successfully complete a Comprehensive Examination in the courses 3450:621, 625, 627, 633, and 634.

C P

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

A R

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 Requirements for the Doctor of Philosophy in Engineering, as given in the *Graduate Bulletin* (see page 37, College of Engineering), shall apply to all applicants for the Engineering Applied Mathematics Program.

College of Engineering

George Haritos, Ph.D., *Dean*

Subramaniya I. Hariharan, Ph.D., *Interim Associate Dean,
Research and Graduate Studies*

Paul C. Lam, Ph.D., *Associate Dean,
Undergraduate Studies and Diversity Program*

Mission of the College

The College of Engineering at the University is committed to excellence in undergraduate and graduate education. The College of Engineering was founded in 1914 and is the second oldest college at the University. The College embraces the departments of Biomedical Engineering, Chemical Engineering, Civil Engineering, Electrical and Computer Engineering, and Mechanical Engineering. The current research focus of the College includes: gas turbine technology, filtration technology, nanotechnology, lightweight automobile research, aero-propulsion technology, catalysis, industrial controls, computational mechanics, smart materials, composites and civil structures, and a variety of modeling and simulation issues of engineering problems. During the academic year 1989-90, the College adopted interdisciplinary procedures for the doctoral program offered by the College. The program is truly interdisciplinary. 02geac.ear

plines for the interdisciplinary programs in Environmental Engineering, Materials Engineering, Mechanics, Systems Engineering, and Transport Processes. The objectives of the proposal were to allow doctoral students access to the infrastructure resources of the entire college and permit the interdisciplinary programs to adapt to the changing research and funding environment. Since the approval of the proposal, the interdisciplinary areas have expanded from the original five programs to ten interdisciplinary programs. These interdisciplinary programs are broadly defined as follows.

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

Mechanics includes the theoretical and experimental study of the stresses, strains, and endurance of structures, machines and various materials, mechanics of solids, fluids, solid, and composite materials.

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

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

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

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

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

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

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

Microscale 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 -15stSt1g3j0 J 8d, an neci 48191 o20. (or undergraD omeriaf)24c

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

| | | |
|----------|---------------------------------|----|
| 4200:610 | Classical Thermodynamics | 3 |
| 4200:697 | 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.

D . . . R

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

MASTER OF SCIENCE DEGREES

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

A . . . R

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

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

Applicants with a bachelor's degree must have an overall grade-point average of 2.75 or better or 3.00 for the last two years (64 semester credits or equivalent).

Applicants whose native language is not English must have a TOEFL score of at least 550 (paper-based) or 213 on the computer-based TOEFL, and also must submit their score on the Test of Written English (TWE).

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

D . . . R

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.

M . . . S . . . C . . . E

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:

| | | |
|----------|------------------------------|----|
| 4200:200 | Material and Energy Balances | 4 |
| 4200:225 | Equilibrium Thermodynamics | 4 |
| 4200:321 | Transport Phenomena | 3 |
| 4200:330 | Reaction Engineering | 3 |
| | Total | 14 |

An overall GPA of 3.0 must be maintained for these courses. These undergraduate engineering courses may be taken prior to graduate admission, or concurrently if the student has Full Admission or Provisional Admission and is enrolled for at least 9 graduate credits.

T . . . O

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

N . . . O

| | | |
|----------|-------------------------------|---|
| 4200:600 | Transport Phenomena | 3 |
| 4200:605 | Chemical Reaction Engineering | 3 |

F . . . Y . . . BS/MS C . . . E . . . P

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.

M . . . S . . . C . . . E

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.

| | | |
|----------|--------------------------------------|----|
| 4300:306 | Theory of Structures | 3 |
| 4300:313 | Soil Mechanics | 3 |
| 4600:310 | Fluid Mechanics | 3 |
| 4300:323 | Water Supply and Wastewater Disposal | 4 |
| 4300:341 | Hydraulics | 3 |
| 4300:361 | Transportation Engineering | 3 |
| 4300:401 | Steel Design | 3 |
| 4300:403 | Reinforced Concrete Design | 3 |
| | Total | 25 |

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

T . . . O

| | | |
|--|---------------------------------|----|
| | Civil Engineering Courses | 15 |
| | Approved Mathematics or Science | 3 |
| | Approved Electives | 6 |
| | Master's Thesis | 6 |
| | Total | 30 |

N . . . O

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

M . . . S . . . E . . . E

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.

| | | |
|----------|-----------------------|----|
| 4400:360 | Physical Electronics | 3 |
| 4400:361 | Electronic Design | 4 |
| 4400:363 | Switching and Logic | 4 |
| 4400:384 | Energy Conversion I | 3 |
| 4400:385 | Energy Conversion Lab | 2 |
| 4400:445 | Analog Communications | 3 |
| 4400:453 | Antenna Theory | 3 |
| 4400:472 | Control Systems II | 4 |
| | Total | 26 |

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

T . . . O

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

N . . . O

| | | |
|--|----------------------------------|----|
| | Electrical Engineering Courses** | 18 |
| | Approved Mathematics | 6 |

| | |
|--------------------|----|
| Approved Electives | 9 |
| Total | 33 |

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

*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.

Mechanical Engineering

Applicants with a bachelor's degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of classical physics, and must select and complete undergraduate coursework from one of four undergraduate disciplines. These undergraduate engineering courses may be taken prior to graduate admission, or concurrently if the student has *full admission* or *provisional admission*, and is enrolled for at least 9 graduate credits.

| | | |
|----------|---------------------------------------|----|
| 4600:300 | Thermodynamics I | 4 |
| 4600:301 | Thermodynamics II | 3 |
| 4600:310 | Fluid Mechanics | 3 |
| 4600:315 | Heat Transfer | 3 |
| 4600:336 | Analysis of Mechanical Components | 3 |
| 4600:340 | Systems Dynamics and Response | 3 |
| 4600:380 | Mechanical Metallurgy | 2 |
| 4600:444 | Fundamentals of Mechanical Vibrations | 3 |
| 4600:441 | Control System Design | 3 |
| | Total | 27 |

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

Thesis

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

Nonthesis

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

Master of Science in Engineering

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

Admission

College of Education

Elizabeth J. Stroble, Ph.D., *Dean*

Robert K. Eley, Ed.D., *Assistant Dean for Student Affairs*

Charlene K. Reed, Ph.D., *Assistant Dean for Administration and Strategic Initiatives*

Mission Statement

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

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

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

DOCTOR OF PHILOSOPHY DEGREE

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

- Successful completion of all Departmental Admission Requirements.
- Completion of the Miller Analogies Test or the Graduate Record Examination (GRE).
- A minimum of 92 graduate credits including the doctoral dissertation. A student considered deficient in any area may be required to take additional courses.
- Completion of a foundation studies program designed to prepare the student before specialization.
- Successful completion of a test in a language judged not to be the student's native tongue and excluding English:
 - a student in the Department of Curricular and Instructional Studies may elect to develop appropriate research skills prescribed by the advisor, subject to review by the department chair, in lieu of the foreign language requirement. (See section on **Additional Research Competency**.)
- Completion of a least six credits in cognate area.
- Completion of a comprehensive written and oral examination.
- Completion of a dissertation comprising not more than 20 credits. Credits beyond the 20 hours may not be applied to the degree. The oral examining committee must be constituted of at least five full-time graduate faculty members, one of whom must be from outside the College.
- Pass the general requirements for the Doctor Philosophy degree.

D R

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

C D P E

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

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

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

P D

The program is predicated on the belief that an effective instructor evolves from a well-planned program containing exposure in three basic areas:

1. Common core foundational studies
2. A specialization
3. Professional education in Curricular and Instructional Studies
4. Other contributing disciplines (cognate)

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

1. W O C

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

2. D

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

A R

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

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

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

- a. Applicants who score less than 45 on the MAT (or 550 on the verbal portion of the GRE) and receive three or more failing evaluations on the controlled writing assignment shall be denied admission to the program.
 - b. Applicants who score less than 45 on the MAT (or 550 on the verbal portion of the GRE) but receive passing evaluations on the writing sample will have their application deferred pending a faculty interview and reevaluation. The MAT may be repeated subject to The Psychological Corporation's rules for repeated testing.
 - c. Applicants who score 45 or higher on the MAT (or 550 on the verbal portion of the GRE) and receive three or more failing evaluations on the controlled writing sample shall have their application deferred pending a faculty interview and reevaluation.
 - d. All doctoral applicants must take the MAT or the GRE. A MAT or GRE taken within the last five years will be accepted.
4. Intended area of specialization is compatible with departmental resources and goals.
 5. Obtain faculty sponsorship through completion of the "Agreement to Advise" form that is included with this information.

All doctoral applicants must do the following:

1. Complete all the admission materials, as specified in Requirements and Procedures of the Doctoral Programs in Education by March 1. Admissions are only processed once a year.

| | | |
|---------------|--|-----|
| 5600:715 | Research Design in Counseling I | 3 |
| 5600:717 | Issues of Diversity in Counseling Psychology | 4 |
| 5600:718 | History and Systems in Psychology | 2 |
| 5600:796 | Counseling Psychology Practicum I | 4 |
| 5600:796 | Counseling Psychology Practicum II | 4 |
| 3750/5600:--- | Required Electives | 8 |
| 5600:899 | Doctoral Dissertation (minimum) | 15 |
| | Language Requirement | 8 |
| | Minimum Total Credit Hours Required | 120 |

Students register for dual listed courses (3750/5600) under their home department code.

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

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

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

Ph.D. in Guidance and Counseling

The doctoral program in Guidance and Counseling is designed for students who hold a master's degree in counseling or a related field. The program has two tracks: (a) Counselor Education and Supervision, and (b) Marriage and Family Therapy. Students in each track are expected to attain advanced level competencies in the core areas of their track, research, and supervision. Practica and internship experiences are required. In addition, the cognate/elective option allows students some flexibility in designing a program that is consistent with career goals. Each track requires completion of a residency year (the last year of course work); passing of the doctoral written and oral comprehensive examinations; and completion of a dissertation. With the proper selection of courses, graduates of the program can meet the requirements for licensure in Ohio as a Professional Clinical Counselor, Clinical member of AAMFT, or supervisor in training for AAMFT.

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

The Ph.D. Program in Guidance and Counseling is accredited by the Council for Accreditation of Counseling and Related Education Programs (CACREP), a specialized accrediting body recognized by the Council on Postsecondary Education (COPA). In addition, Marriage and Family Counseling/Therapy has Candidacy Status from the Commission of Marriage and Family Therapy Education (COAMFTE) of the American Association of Marriage and Family Therapy (AAMFT).

P . D . G u i d a n c e a n d C o u n s e l i n g :

Course Requirements

| | | |
|----------|---------------------------------------|---|
| 5100:705 | Social-Philosophical Foundations | 3 |
| 5100:635 | Emerging Technologies for Instruction | 3 |

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MASTER'S DEGREE

Programs leading to the degree of M.A. in education, M.S. in education, and M.S. in postsecondary technical education are offered.

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

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

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

| | | |
|----------|--|---|
| 5100:600 | Philosophies of Education | 3 |
| | or | |
| 5100:602 | Comparative and International Education | 3 |
| | or | |
| 5100:604 | Topical Seminar in the Cultural Foundations of Education | 3 |
| 5100:620 | Psychology of Instruction for Teaching and Learning | 3 |
| | or | |
| 5100:624 | Seminar: Educational Psychology | 3 |
| 5100:640 | Techniques of Research | 3 |

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

Outreach Master's in Education Programs

The University of Akron's College of Education believes that improvement in teacher education and continuing professional development is the direct result of collabo-

| | | |
|--|---|----|
| – Internship | | |
| 5600:685 | Internship in Counseling† (prerequisite 5600:675) | 6 |
| | Subtotal | 6 |
| Minimum Department Hours Required | | 35 |
| • Specialized Studies | | |
| 5600:620 | Issues in Sexuality for Counselors | 3 |
| • Clinical Counseling Component | | |
| 5600:720 | Topical Seminar: Guidance and Counseling - Personality & Abnormal | 3 |
| 5600:714 | Objective Personality Evaluation | 4 |
| 5600:720 | Topical Seminar: Guidance and Counseling - DSM-IV | 3 |
| 5600:720 | Topical Seminar: Guidance and Counseling - Treatment in Counseling | 3 |
| Also, choose one of the following three courses: | | |
| 5600:655 | Marriage and Family Therapy: Theory and Techniques | 3 |
| 5600:732 | Addiction Counseling I: Theory and Assessment | 3 |
| 5600:734 | Addiction Counseling II: Treatment Planning and Intervention Strategies | 3 |
| Minimum Semester Hours Required for Program | | 60 |

*Counseling Theory and Philosophy and Techniques of Counseling may be taken concurrently.
 **Must sign up with secretary one year in advance.
 †Must sign up with Internship Coordinator no later than second week of term preceding internship.
 ‡Practicum and Internship require closed class permission. You must request one from the Department prior to registering.

S C

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

A R :

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

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

For those without a teaching license:

- GRE
- 2.75 undergraduate grade point average
- BCI check
- Speech and hearing test
- Computer literacy test
- Three letters of reference
- Departmental supplemental application

There are ten credit 11 d T*liul5requisite coursework for students without a teaching license and two years teaching experience:

| | | |
|--|------------------------------|---|
| 5600:663 | Seminar in School Counseling | 3 |
| 5600:695 | Field Experience: Master's | 1 |
| One of the following: 5600:660; 5600:640; or 5600:622 (3 credit 11 d) | | |
| One of the following: 5610:567 or 5620:559 (3 credit 11 d) | | |

- Foundations (select one course from each area)
 - Behavioral Foundations

| | | |
|----------|--|---|
| 5600:648 | Individual and Family Development Across the Life Span | 3 |
|----------|--|---|
 - Humanistic Foundations

| | | |
|----------|--------------------------|---|
| 5600:646 | Multicultural Counseling | 3 |
|----------|--------------------------|---|
 - Research

| | | |
|----------|------------------------|---|
| 5100:640 | Techniques of Research | 3 |
|----------|------------------------|---|
- Minimum Foundation Hours Required 9
- Required Counseling Department Courses



| | | |
|----------------------------|--|-----|
| • 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 |



| | | |
|------------------------------|---|-----|
| • Foundations requirements: | | |
| 5100:604 | Topical Seminar in the Cultural Foundations of Education | 3 |
| 5100:624 | Seminar: Educational Psychology | 3 |
| 5100:640 | Techniques of Research | 3 |
| 5100:741 | Statistics in Education | 3 |
| • Professional requirements: | | |
| 3750:700 | Survey of Projective Techniques | 4 |
| 3750:530 | Psychological Disorders of Childhood | 4 |
| 3750:712 | Principles and Practices of Individual Intelligence Testing | 4 |
| 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:

| | | |
|----------|--|-----|
| 3750:500 | Personality | 4** |
| 5610:543 | Developmental Characteristics of Learning Disabled Individuals | 3 |
| | or | |
| 5500:626 | Reading Diagnosis for School Psychologists and Support Personnel | 3 |
| 5610:540 | Developmental Characteristics of Exceptional Individuals | 3** |
| | or | |
| 3750:520 | Abnormal Psychology | 3** |
| 5620:601 | Cognitive Function Models: Principles of Educational Planning | 3 |
| 5620:603 | Consultation Strategies for School Psychology | 3 |
| 5620:611 | Practicum in School Psychology | 4 |
| | (this course is repeated once for a total of eight credits) | |

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

| | | |
|----------|--|---|
| 5620:630 | Internship: School Psychology | 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 |
| | or | |
| 5170:601 | Principles of Educational Administration | 3 |

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

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

**Required as part of Special Education masters.

• Educational Administration – 21 credits:

| | | |
|----------|--|---|
| 5170:601 | Principles of Educational Administration | 3 |
| 5170:603 | Management of Human Resources | 3 |
| 5170:604 | School-Community Relations | 3 |
| 5170:606 | Evaluation in Educational Organizations | 3 |
| 5170:607 | School Law | 3 |
| 5170:608 | School Finance and Economics | 3 |
| 5170:610 | Principles of Educational Supervision | 3 |

• Post-Master's Requirements – 14 credits:

| | | |
|------------|---|---|
| 5170:704 | Advanced Principles of Educational Administration | 3 |
| 5170:705 | Decision Making in Educational Administration | 3 |
| 5170:707 | The Superintendency | 3 |
| 5170:795/6 | Internship | 4 |
| 6500:654 | Industrial Relations | 3 |



• Foundation Studies – 12 credits.

| | | |
|----------|--|---|
| 5100:600 | Philosophies of Education | 3 |
| | or | |
| 5100:604 | Topical Seminar in the Cultural Foundations of Education | 3 |
| 5100:620 | Psychology of Instruction for Teaching and Learning | 3 |
| | or | |
| 5100:624 | Seminar: Educational Psychology | 3 |
| 5100:636 | Topical Seminar in Educational Technology | 3 |
| 5100:640 | Techniques of ResT*6hniq0(0:912)TJ0.0139 Tw 7.5 0 0 7.5 36 669516037 Tm[(+)-330(P)5cational A)20(dministration – 21 credits:)]TJ0.0278 Tw 6.5 0 0 6.5 42 726505037 4[(51)70(70:60)75(1)-2677 | |

E **F** **(M.A.)**

Specialized Options:

- Instructional Technology
- Educational Psychology
- Social/Philosophical Foundations of Education
- Research Methodology and Evaluation

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

- College Core Foundation Studies (nine hours)
- Program Requirements for the specialization selected above (minimum of 15 hours)
- Outside Department (minimum of six hours except for Instructional Technology option)
- Master's Comprehensive Examination (electronic portfolio for Instructional Technology)

fitness, corporate fitness and cardiac rehabilitation programs. Special attention is also given to knowledge and practical skills necessary for students preparing for American College of Sports Medicine certifications.

• Required Foundation Courses:

| | | |
|----------|---|---|
| 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:

| | | |
|----------|--|---|
| 5550:500 | Musculoskeletal Anatomy I | 3 |
| | or | |
| 5550:600 | Biomechanics Applied to Sports and Physical Activity | 4 |
| 3100:569 | Respiratory Physiology | 3 |
| | or | |
| 5550:501 | Musculoskeletal Anatomy II | 3 |
| 3100:565 | Advanced Cardiovascular Physiology | 3 |
| 5550:605 | Physiology of Muscular Activity and Exercise | 3 |
| 5550:606 | Statistics: Qualitative and Quantitative Methods | 3 |
| 5550:680 | Special Topics in Health and Physical Education: Laboratory Instrumentation | 3 |
| 7400:587 | Sports Nutrition | 3 |

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

| | | |
|----------|----------------------------|-------------|
| 5550:695 | Field Experience: Master's | |
| | or | |
| 5550:698 | Master's Problem | |
| | or | |
| 5550:699 | Master's Thesis | 2 (minimum) |

• Electives: Select at least one (1) course from among the following and have advisor approval.

| | | |
|----------|---|---|
| 5100:520 | Introduction to Instructional Computing | 3 |
| 5100:741 | Statistics in Education | 3 |
| 5100:743 | Advanced Education Statistics | 3 |
| 5550:601 | Sports Administration and Supervision | 3 |
| 5550:609 | Motivational Aspects of Physical Activity | 3 |

O : S . S . /C

This sport science/coaching graduate program option has been designed to meet the needs of teachers and practicing/prospective coaches. Because this program meets published NASPE National Standards, licensed educators may be able to use this sport science program to meet the master/30 hour requirement for the second renewal of their professional license; however, these individuals must seek renewal from their local professional development committee.

• Required Foundation Courses:

| | | |
|----------|---|---|
| 5100:620 | Psychology of Instruction for Teaching and Learning | 3 |
| | or | |
| 5550:604 | Current Issues in Physical Education and | 3 |
| 5100:640 | Techniques of Research | 3 |
| | Subtotal | 6 |

• Required Courses:

| | | |
|----------|--|-------|
| 5550:540 | Injury Management for Teachers and Coaches | 2 |
| | or | |
| 5550:541 | Advanced Athletic Injury Management: Upper Extremity | 4 |
| 5550:553 | Principles of Coaching | 3 |
| 5550:562 | Legal/Ethical Issues in Physical and Leisure Activity | 2 |
| 5550:601 | Sports Administration and Supervision | 3 |
| 5550:602 | Motor Behavior Applied to Sports | 3 |
| 5550:603 | Tactics and Strategies in the Science of Teaching and Coaching | 3 |
| 5550:605 | Physiology of Muscular Activity and Exercise | 3 |
| 5550:609 | Motivational Aspects of Physical Activity | 3 |
| 7400:587 | Sports Nutrition | 3 |
| | Subtotal | 24-27 |

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

| | | |
|----------|----------------------------|-------------|
| 5550:695 | Field Experience: Master's | |
| | or | |
| 5550:698 | Master's Problem | |
| | or | |
| 5550:699 | Master's Thesis | 2 (minimum) |

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

| | | |
|----------|--|-----|
| 5550:590 | Workshop (e.g., Issues of Student Athletes) | 1-5 |
| 5550:606 | Statistics: Qualitative and Quantitative Methods | 3 |
| 5550:680 | Special Topics (e.g., Coaching Youth Sports) | 1-5 |
| 5570:521 | Comprehensive School Health | 4 |
| | Total Program | 35 |

S N L P
A R S 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/T1etion andnthing and/inbutus)*t trnarearmcress; (v)20(ant tlun and Collm)

S D

For a student who has already obtained one master's degree in business, it is possible to pursue another degree in the college provided that: (1) no second M.B.A. is to be obtained; (2) the degree sought is not in the same functional discipline; (3) the desired program (degree curriculum) is specifically approved in advance by the

| | | |
|----------|---|---|
| 6200:622 | Corporate Accounting and Financial Reporting II | 3 |
| 6200:610 | Process Analysis and Cost Management | 3 |
| 6200:627 | Survey of Federal Taxation | 3 |
| 6200:520 | Advanced Accounting | 3 |
| 6200:531 | Taxation II | 3 |
| 6200:540 | Auditing | 3 |
| | Electives: two 600-level non-accounting courses | 6 |

The advanced program for students with non-accounting undergraduate degrees consists of 33 hours, of which 27 are required and 6 are elective. For a student entering with no business background the total program, including foundation course work, is 57 hours.

• Required of MSA (PA) students with undergraduate degrees in Accounting:

| | | |
|----------|--|---|
| 6200:637 | Advanced Accounting Theory | 3 |
| 6200:531 | Taxation II ^a | 3 |
| 6200:520 | Advanced Accounting ^b | 3 |
| 6200:640 | Advanced Auditing | 3 |
| | Electives: one 600-level accounting courses | 3 |
| | Electives: three, not more than one of which may be at the 500 level | 9 |

^a Students who have taken 6200:431 as undergraduates will select another 600-level tax class.

^b Students who have taken 6200:420 as undergraduates will select another 500- or 600-level accounting elective. The Advanced program for undergraduate accounting majors consists of 30 hours of which 18 are required and 12 are electives.

A I S (AIS) O

An undergraduate degree in accounting or equivalent from an accredited college or university is required to pursue this option. Students who are admitted into this option will have completed prior course work in the following areas in their undergraduate accounting or equivalent programs:

- Accounting Information Systems (at least 3 credits)
- Intermediate Accounting
- Auditing (at least 3 credits)
- Cost and Management Accounting (at least 3 credits beyond principles)

• Required of MSA (AIS) students:

| | | |
|----------|--|---|
| 6200:606 | Applications Development for Financial Systems | 3 |
| 6200:607 | Financial Data Communications and Enterprise Integration | 3 |
| 6200:615 | Enterprise Resource Planning and Financial Systems | 3 |
| 6200:658 | E-Business Risks, Controls, and Assurance Services | 3 |
| 6200:659 | Assurance Services with Data Warehousing and Data Mining | 3 |
| 6500:620 | E-Business Foundations | 3 |
| 6500:622 | E-Business Technologies | 3 |
| 6500:605 | Business Applications Development | 3 |

Including the 6 credits of required courses for all MSA students, students with an undergraduate degree in accounting or equivalent will complete the AIS option in 30 credits.

Master of Taxation

The Master of Taxation Program is a professional degree designed to provide intensive training for individuals planning to enter the field and for experienced accountants and attorneys.

The program provides a framework of conceptual, technical and professional knowledge that will assist students in developing expertise needed to examine and understand many aspects of the tax structure. Through an integrated curriculum with emphasis on tax concepts, substantive knowledge of federal and state taxation, tax research, communication skills, and tax planning, students develop an ability to identify and solve tax problems.

The Master of Taxation curriculum consists of a set of foundation courses and a set of required taxation courses. A minimum of 30 semester credits is required for the degree. Foundation courses may be waived for those who have had recent study in the subject areas.

• Foundation Courses:

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

• Required Master of Taxation Courses:

| | | |
|----------|--------------------------------------|---|
| 6200:628 | Basic Tax Research | 2 |
| 6200:631 | Corporate Taxation I | 3 |
| 6200:632 | Taxation of Transactions in Property | 3 |
| 6200:633 | Estate and Gift Taxation | 3 |

• Electives: 19 credits of graduate taxation courses, selected from the list below:

| | | |
|----------|--------------------------|---|
| 6200:641 | Taxation of Partnerships | 3 |
| 6200:642 | Corporate Taxation II | 3 |
| 6200:643 | Tax Accounting | 2 |

| | | |
|----------|---|-----|
| 6200:644 | Income Taxation of Decedents, Trusts, and Estates | 2 |
| 6200:645 | Advanced Individual Taxation | 3 |
| 6200:646 | Consolidated Tax Returns | 2 |
| 6200:647 | Qualified Pension and Profit-Sharing Plans | 3 |
| 6200:648 | Tax Practice and Procedure | 2 |
| 6200:649 | State and Local Taxation | 3 |
| 6200:650 | Estate Planning | 2 |
| 6200:651 | United States Taxation and Transnational Operations | 2 |
| 6200:652 | Tax Exempt Organizations | 2 |
| 6200:653 | Business Planning | 2 |
| 6200:654 | Independent Study in Taxation | 1-3 |
| 6200:656 | Nonqualified Executive Compensation | 2 |
| 6200:661 | Advanced Tax Research and Policy | 3 |
| 6200:690 | Seminar in Taxation | 3 |
| 6200:693 | Selected Topics in Taxation: | |
| | Limited Liability Companies | 2 |
| | S Corporations | 3 |
| | Mergers and Acquisitions | 2 |
| | Advanced Partnership Tax Planning | 2 |

Total Required Taxation Courses 30-48

In exceptional situations, subject to the approval of the Chair of the G.W. Davenport School of Accountancy, up to six credits of approved graduate College of Business Administration courses may be allowed as electives.

Master of Science in Management

The Master of Science in Management program allows students to concentrate their advanced study in one of the two areas: human resource management or information systems management. Because of the complex nature of these specializations, they are not normally offered as options in traditional MBA programs. They are designed for individuals who know what they want to do or to help them apply what they already know more effectively. For example, computer science majors may choose to concentrate in information systems while psychology majors would benefit from the human resource management option. The introductory coursework for this program is termed a foundation core and consists of 24 credits which may be waived if the student has completed prior study in the area. The remaining 33 credits of coursework consists of 12 credits of general management coursework, 18 credits of specialization courses and one 3-credit free elective. If all foundation courses are waived, the program is 33 credits in length.

• Foundation Core:
All are required unless waived at time of admission:

| | | |
|----------|--|---|
| 3250:600 | Foundations of Economic Analysis | 3 |
| 6200:601 | Financial Accounting | 3 |
| 6400:602 | Managerial Finance | 3 |
| 6400:655 | Government and Business | 3 |
| 6500:600 | Management and Organizational Behavior | 3 |
| 6500:601 | Quantitative Decision Making | 3 |
| 6500:602 | Computer Techniques for Management | 3 |
| 6600:600 | Marketing Concepts | 3 |

• Management Core Courses (12 credits):

| | | |
|----------|--------------------------------|---|
| 6500:640 | Management Information Systems | 3 |
| 6500:663 | Data Analysis for Managers | 3 |
| 6500:652 | Organizational Behavior | 3 |
| | or | |
| 6500:653 | Organizational Theory | 3 |
| 6500:662 | Applied Operations Research | 3 |
| | or | |
| 6500:670 | Operations 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.

O :
Choose a concentration from the following:

I S M (ISM)

• ISM Required Concentration Courses (12 credits)

| | | |
|----------|---|---|
| 6500:641 | Business Database Systems | 3 |
| 6500:643 | Analysis and Design of Business Systems | 3 |
| 6500:648 | Management of Telecommunications | 3 |
| 6500:645 | Advanced Management Information Systems | 3 |

• ISM Restricted Electives (6 credits)

| | | |
|----------|--|---|
| 6500:605 | Business Applications Development* | 3 |
| 6500:620 | E-Business Foundations | 3 |
| 6500:622 | E-Business Technologies | 3 |
| 6500:642 | Systems Simulation | 3 |
| 6500:644 | Knowledge Management and Business Intelligence | 3 |
| 6500:646 | Process Redesign with Enterprise Resource Planning | 3 |
| 6500:651 | Management of Organizational Transformation | 3 |
| 6500:665 | Management of Technology | 3 |
| 6500:678 | Project Management | 3 |

HUMAN RESOURCE (HRM)

| | | |
|---|---|-------------|
| • HRM Required Concentration Courses (12 credits) | | |
| 6500:650 | Fundamentals of Human Resource Administration | 3 |
| 6500:658 | Strategic Human Resource Management | 3 |
| 6500:660 | Employment Regulation | 3 |
| 6500:652 | Organizational Behavior | 3 |
| | or | |
| 6500:653 | Organizational Theory | 3 |
| • HRM Restricted Electives (select 6 credits) | | |
| 6500:651 | Management of Organizational Transformation | 3 |
| 6500:654 | Labor Management Relations | 3 |
| 6500:655 | Compensation Administration | 3 |
| 6500:659 | International Human Resource Management | 3 |
| 6500:661 | Comparative Systems of Employee and Labor Relations | 3 |
| | or 3 credits approved by the Director | 3 |
| <i>Total concentration</i> | | <i>18</i> |
| <i>Total program</i> | | <i>33**</i> |

*Has to be taken if business application development proficiency requirement has not been satisfied. If proficiency is satisfied, a different elective must be taken for credit.

**57 total credits if foundation courses are required; see Graduate Director.

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.

DIRECTOR

A student is required to fulfill the requirements of the School of Law, 87 credits, which includes 10 credits transferred from the CBA. The requirements of the CBA may be met by fulfilling the requirements previously listed which include the common body of knowledge (Foundation) courses (unless waived because of prior undergraduate credits earned), and 25 credits for M.B.A. (24 for the M.S.M.-HR) of advanced courses in the CBA plus nine credits transferred from the School of Law. The Master of Taxation program consists of 20-24 credits of advanced courses in the CBA plus 10 credits transferred from the School of Law. The reciprocal acceptance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Programs in Business prior to completion. To earn both degrees, a total of 97 (J.D./M.Tax.), 102 (J.D./M.B.A.), or 101 (J.D./M.S.M.-HR) credits is required, depending on the master's program pursued. More credits may be required for the master's degree if Foundation courses are required.

Upon the approval of the director of Graduate Programs in Business, 10 credits of School of Law courses may be applied toward the Masters of Taxation degree. No more than six credits from the School of Law may be in non-tax courses. The other four credits taken in the School of Law must be in tax courses which substitute for equivalent tax courses in the CBA.

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

J.D./M.S.M.-HR students may transfer nine credits of School of Law courses into the M.S.M. program. Six credits must be in their area of concentration and must be selected from the courses listed below. Three credits of free electives may be chosen from other business-related law courses and must be approved by the director of graduate programs in Business Administration.

CHOICES FOR CONCENTRATION ELECTIVES

Choices for Concentration Electives:

Accounting (choose 6 credits)

| | |
|--------------|---------------------------------------|
| 9200:639 | Estate and Gift Taxation |
| 9200:640 | Individual Taxation |
| 9200:641 | Corporate Taxation |
| 9200:665 | Taxation of Partnerships |
| 9200:680 | Qualified Pensions and Profit Sharing |
| 9200:685/686 | Wills, Trusts and Estates I, II |

Finance (choose 6 credits)

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

College of Fine and Applied Arts

Mark S. Auburn, Ph.D., *Dean*

James M. Lynn, Ph.D., *Associate Dean*

Philip G. Thomson, M.M., *Assistant Dean*

Mission Statement

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

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

Doctor of Audiology - Doctoral Program

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:

C E D O

- Core Courses:

| | | |
|----------|--|---|
| 7400:602 | Family in Lifespan Perspective | 3 |
| 7400:605 | Developmental Parent-Child Interactions | 3 |
| 7400:610 | Child Development Theories | 3 |
| 7400:665 | Development in Infancy and Early Childhood | 3 |

- Option Electives

Select 9 credits from the following courses with approval of advisor (if a course has been taken at the undergraduate level, other courses must be selected):

| | | |
|----------|-----------------------------------|---|
| 7400:501 | American Families in Poverty | 3 |
| 7400:504 | Adolescence in the Family Context | 3 |
| 7400:506 | Family Financial Management | 3 |
| 7400:540 | Family Crisis | 3 |

F **C**

• Required by all program options:

| | | |
|----------|---|---|
| 7400:604 | Orientation to Graduate Studies in Family and Consumer Sciences | 1 |
| 7400:680 | Historical and Conceptual Bases of Family and Consumer Sciences | 3 |
| 7400:685 | Research Methods in Family and Consumer Sciences | 3 |

• Core Courses:

| | | |
|----------|-----------------------------|---|
| 7400:624 | Advanced Human Nutrition I | 3 |
| 7400:625 | Advanced Human Nutrition II | 3 |

Electives (9 to 12 credits required)

- 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 | 8 |
| 7510:6— | Ensemble | 2 |
| 7500:5—/6— | Other music courses | 8 |
| 5100:5—/6— | Educational Foundations and Leadership | 4 |
| 5170:5—/6— | General Administration | 4 |
| 55—:5—/6— | Curricular and Instructional Studies | 4 |
| 5500:780 | Seminar in Curricular and Instructional Studies | 1-3 |

* Topics related to instrumental music.

M E O : G M E

T O 32

- 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 T75nd Instructional Studies | 1-3 |

| | | |
|----------|---|---|
| 7500:616 | Musical Styles and Analysis II | 2 |
| 7500:617 | Musical Styles and Analysis III | 2 |
| 7500:621 | Music History Survey: Middle Ages and Renaissance | 2 |
| 7500:622 | Music History Survey: Baroque | 2 |
| 7500:623 | Music History Survey: Classic and Romantic | 2 |
| 7500:624 | Music History Survey: Music Since 1900 | 2 |

• Major required courses – 25 credits:

| | | |
|----------|--|-----|
| 7500:553 | Music Software Survey and Use | 2 |
| 7500:613 | Instructional Programming in Music for the Microcomputer | 3 |
| 7500:618 | Musical Styles and Analysis IV (20th century) | 2 |
| 7500:627 | Computer Studio Design | 2 |
| 7500:653 | Electronic Music | 3 |
| 7500:699 | Master's Thesis/Project | 4-6 |
| 7510:6— | Ensemble (participation in two ensembles sequences) | 2 |
| 7520:542 | Composition (electronic music) | 4 |
| 7600:697 | Graduate Research in Communication | 3 |

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

Degree Total: 33 credits.

P O A

• Music core courses – Eight credits (to be selected):

| | | |
|----------|---|---|
| 7500:555 | Advanced Conducting: Instrumental | 2 |
| 7500:566 | Advanced Conducting: Choral | 2 |
| 7500:615 | Musical Styles and Analysis I (Chant through Palestrina) | 2 |
| 7500:616 | Musical Styles and Analysis II (Baroque through early Beethoven) | 2 |
| 7500:617 | Musical Styles and Analysis III (Late Beethoven through Mahler/Strauss) | 2 |
| 7500:618 | Musical Styles and Analysis IV (20th Century) | 2 |
| 7500:621 | 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 or | 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 | 3 |
| 7500:698 | Graduate Recital (to be completed in a minimum of two performance media) | 2 |
| 7510:614 | Keyboard Ensemble (participation in two ensembles required)** | 2-4 |
| 7510:618 | Small Ensemble - Mixed | 2 |
| 7520:6— | Applied Music (piano, organ and/or harpsichord) | 8 |

• Additional music courses – two to three credits.

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

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

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

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

• 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

P O W S P

• 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 |
| 7500:632 | Teaching and Literature: Percussion Instruments | 2 |
| 7500:634 | Teaching and Literature: String Instruments | 2 |
| 7500:698 | Graduate Recital | 2 |

• Additional music courses – six credits.*

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

• Electives – four credits.*

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

Degree total: 34-36 credits.

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

P O V

• 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 – 20-22 credits:

| | | |
|----------|--|-----|
| 7500:618 | Musical Styles and Analysis IV (20th Century) | 2 |
| 7500:665 | Vocal Pedagogy | 3 |
| 7500:666 | Advanced Song Literature | 3 |
| 7500:698 | Graduate Recital | 2 |
| 7510:6— | Ensemble (participation in two ensembles required)** | 2-4 |
| 7520:624 | Applied Voice | 8 |

• Additional music courses – two credits (suggested minimum).

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

P O K

• 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 – 18-21 credits:

| | | |
|----------|---|-----|
| 7500:618 | Musical Styles and Analysis IV (20th Century) (Select either 7500:562 or 7500:633) | 2 |
| 7500:562 | Repertoire and Pedagogy: Organ or | 2 |
| 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.

*It is recommended that each student's graduate committee recommend the appropriate elective credits.

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

P O : C C

- Major Required Courses (22 credits)

| | | |
|--------------|---|---|
| 7500:556 | Advanced Choral Conducting | 6 |
| 7500:570 | Studies in Choral Literature (Med/Ren) | 2 |
| 7500:571 | Studies in Choral Literature (Baroque) | 2 |
| 7500:572 | Studies in Choral Literature (Class/Rom) | 2 |
| 7500:573 | Studies in Choral Literature (20th Century) | 2 |
| 7500:574 | Integrative Conducting Workshop | 2 |
| 7520:676 | Workshop in Choral Music Education | 2 |
| 7510:620/621 | Choral Ensemble | 2 |
| 7500:624 | Applied Voice | 4 |

- Electives (6 credits)

| | | |
|----------|--------------------------------|---|
| 7500:570 | Foundations of Music Education | 3 |
|----------|--------------------------------|---|

Speech-Language Pathology and Audiology

The School of Speech-Language Pathology and Audiology offers a Master of Arts degree in Speech-Language Pathology. Speech-Language Pathology is designed to lead to professional licensure by the State of Ohio Board of Speech-Language Pathology and Audiology.

M **A** **S** **L**
P **P** **S** **L**

Prerequisites:

- Complete a minimum of 60 graduate credits of approved courses in social work

College of Nursing

Cynthia F. Capers, R.N., Ph.D., *Dean*
Kathleen Ross-Alaolmolki, R.N., Ph.D.,

Students will be assigned an academic advisor based on mentoring and mutual research interests. Advisor and student will develop an academic program plan customized to student interest, subject to advisor approval. Target dates for successfully completing the qualifying examination and the completion of the dissertation will be developed early in the program plan. Students may change advisors for academic or dissertation purposes, subject to the approval of the JPDN directors.

For progression and graduation, students must meet the following degree requirements:

- maintain an overall grade point average of 3.0 on a four-point scale (or be liable to dismissal according to University policies);
- adhere to criteria concerning enrollment, residency, and leaves of absence;
- complete degree requirements within 9 years of enrollment;
- complete 42 semester hours of required course work;
- successfully complete the qualifying examination and dissertation requirements;
- successfully complete and orally defend a dissertation based upon original investigation and critical scholarship.

Students who do not meet the criteria for successful progression and graduation will be notified in writing.

Program Description and Curriculum

The JPDN is a post master's degree, requiring 72 semester credit hours including the dissertation. It consists of five components, with selected customization to student interests. The *nursing knowledge component* examines knowledge and theory development as well as courses in selected domains of nursing knowledge related to student interest and faculty expertise. *Research methods, designs, and statistics* examines approaches to both qualitative and quantitative research. Students must select at least one advanced research methods course to promote their research agenda: *i.e.*, program evaluation, advanced qualitative or quantitative methods, or grantsmanship. *Cognates* will be chosen from courses outside nursing which support the student's research interest. *Health care policy* courses focus on health care and nursing issues. These four components culminate into the fifth component, the *dissertation*, which follows the successful completion of the qualifying examination. The course work in each of these five components follows.

| | | |
|---|---|------|
| S. | | |
| 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 |
| R. | | |
| Three required methods/design courses (9 credits) | | |
| 8200:825 | Quantitative Research Methods | 3 |
| 8200:830 | Qualitative Research Methods | 3 |
| 8200:845 | Advanced Methods for Research (1 advanced nursing research methods course selected with the approval of the student's academic adviser.) | 3 |
| Two required statistics courses (6 credits) | | |
| 8200:827 | Advanced Health Care Statistics I | 3 |
| 8200:837 | Advanced Health Care Statistics II | 3 |
| C. | | |
| Three required courses (9 credits) | | |
| | Cognates | 9 |
| (Three courses are selected with the approval of the student's academic advisor from a discipline outside of nursing to support the student's research interest.) | | |
| È. | | |
| 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 |
| H. Ç. | | |
| One required course (3 credits) | | |
| 8200:835 | Nursing and Health Care Policy | 3 |
| D. | | |
| 30 credit hours required | | |
| 8200:899 | Doctoral Dissertation | 30 |
| 8200:800 | Doctoral Dissertation II | 1 |

Qualifying for Candidacy for the Doctoral Dissertation

- All students in the JPDN Program are required to successfully complete a qualifying examination before proceeding to conduct dissertation research. To be eligible for candidacy for the dissertation, students must have completed 42 hours of required courses, have maintained a minimum GPA of 3.0 on a 4.0 scale in the doctoral program, have successfully completed the qualifying examination, and have been approved by the appropriate administrative bodies of the program.
- *Dissertation Prospectus.* The dissertation prospectus is a written document that includes an outline of the parameters of the projected dissertation topic with a rationale and statement of the problem to be researched, the methodology and design of the study, a preliminary review of the literature substantiating the need for the study, and the principle sources of information for the dissertation. Approval of the prospectus permits the student to proceed with the dissertation.
- *Dissertation.* The dissertation is based upon original investigation and demonstration of mature scholarship and critical judgment in the theoretical and methodological approaches to development of nursing knowledge. The dissertation is expected to be the first step in the development of a program of research and scholarly activity. A minimum of 30 dissertation credit hours are required.
- *Oral defense.* When the dissertation is completed a meeting will be scheduled for the student's defense of the dissertation. The candidate is expected to respond to substantive and methodological questions related to the dissertation.
- *Dissertation committee.* A four person doctoral dissertation committee will guide and approve the acceptability of the dissertation. The Chair must be a member of the JPDN faculty, as must be two committee members. The remaining 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.



The Innovative Pathways into the Joint Ph.D. in Nursing Program (JPDN) is an accelerated program that allows individuals with a BSN and students enrolled in the RN-MSN program direct admission into the JPDN program. Acceleration is accomplished by restructuring MSN and Ph.D. curricula to recognize the mastery of specific content, thereby facilitating graduate study. There are two pathways: one for BSN graduates and one for RN-option students. Since existing acceleration pathways differ at The University of Akron and Kent State University, individuals applying for admission to this program must apply for admission through the Graduate School of The University of Akron.

BSN Graduates:

BSN students within one semester of graduation and professional nurses with a BSN degree may apply in December prior to the fall in which admission is desired. Admission criteria include:

- Enrollment in an accredited BSN program within one semester of graduation or hold the BSN degree.
- Provide evidence of successful completion (or the potential to complete the BSN by the following fall semester) of a baccalaureate degree program in nursing at an accredited school with a minimum grade point average of 3.0 on a 4.0 scale.
- Provide evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Provide evidence of acceptable scores on the Graduate Record Examination.
- Submit a statement about nursing career interests and goals.
- 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).

- Internship in generalist practice during Summer Session I
- Internship in advanced nursing practice during Summer Session II

MSN-Option Students.

Currently enrolled RN-option students at The University of Akron may apply for admission following completion of the RN-option bridge courses. Admission criteria include:

- Enrollment in The University of Akron RN-option program.
- Minimum grade point average of 3.0 on a 4.0 scale for all previous coursework.
- Provide evidence of current licensure, or eligibility for licensure, by the Ohio Board of Nursing.
- Provide evidence of current malpractice insurance.
- Provide evidence of acceptable scores on the Graduate Record Examination.
- Submit a statement about nursing career interest and goals.
- Give a sample of written work. This may include, for example, a scientific term paper, a research paper, an honor's project, a professional report, or a published article.
- Submit three (3) letters of recommendation from professors or other professionals who can adequately evaluate previous work and potential for success in the Ph.D. program. One of the three letters must be from a Doctoral Faculty Council member who has worked closely with the student.

| | | |
|----------|--------------------------------|---|
| 8200:645 | Principles of Anesthesia II | 4 |
| 8200:646 | Nurse Anesthesia Residency II | 4 |
| 8200:647 | Professional Role Seminar | 2 |
| 8200:648 | Nurse Anesthesia Residency III | 4 |
| 8200:649 | Nurse Anesthesia Residency IV | 4 |

- CRNA-MSN Anesthesia Option

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

- CPNP-MSN Child and Adolescent Health Nursing Option

This curriculum plan allows a practicing CPNP with a BSN degree to progress to a MSN degree. A practicing CPNP who has previously graduated from a certificate program that was approved by NCBPNP and is currently certified/recertified as a CPNP can submit a portfolio for by-pass credit based on that curriculum and certification through NCBPNP.

| | | |
|----------|---|-----|
| 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 NP Internship (elective only) | 1-4 |
| 8200:659 | Practicum: Child and Adolescent Health Nursing | 5 |

- Behavioral Health Nursing

Behavioral Health Nursing Track (49 credit hours and meets eligibility requirements for certification through American Nurses Credentialing Center [ANCC] as psychiatric clinical nurse specialist or psychiatric nurse practitioner).

| | | |
|----------|--|-----|
| 5600:720 | Topical Seminar: Guidance and Counseling (DSM IV) | 3 |
| 8200:610 | Advanced Adult/Gerontological Assessment | 3 |
| 8200:612 | Advanced Clinical Pharmacology | 3 |
| 8200:660 | Behavioral Health Nursing I Practicum | 2 |
| 8200:661 | Behavioral Health Nursing I | 3 |
| 8200:662 | Clinical Psychopharmacology | 3 |
| 8200:663 | Behavioral Health Nursing Internship (elective only) | 1-4 |
| 8200:664 | Behavioral Health Nursing II Practicum | 2 |
| 8200:665 | Behavioral Health Nursing II | 3 |
| 8200:667 | Behavioral Health Nursing III | 3 |
| 8200:668 | Behavioral Health Nursing III Practicum | 2 |
| 8200:669 | Practicum: Behavioral Health Nursing | 5 |

- Adult Gerontological Health Nursing Clinical Nurse Specialist Track (39 credits)

| | | |
|----------|---|---|
| 8200:610 | Advanced Adult/Gerontological Assessment | 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 II | 2 |
| 8200:676 | Adult/Gerontological Health Nursing CNS II Practicum | 2 |
| 8200:677 | Adult/Gerontological Health Nursing CNS III | 2 |
| 8200:678 | Adult/Gerontological Health Nursing CNS III Practicum | 2 |
| 8200:679 | Practicum: Adult/Gerontological Health Nursing CNS | 4 |

- Adult Gerontological Health Nurse Practitioner Track (47 credits and meets eligibility requirements for certification through American Nurses Credentialing Center [ANCC] and American Academy of Nurse Practitioners).

| | | |
|---|--|---|
| 8200:610 | Advanced Adult/Gerontological Assessment | 3 |
| 8200:612 | Advanced Clinical Pharmacology | 3 |
| 8200:620 | Adult/Gerontological Health Nursing NP I | 2 |
| 8200:621 | Adult/Gerontological Health Nursing NP II | 2 |
| 8200:622 | Adult/Gerontological Health Nursing NP III | 2 |
| 8200:623-2513(A)20(dult/Gerontological Health N.5 0 0 eeea)50e-Bg III Practicum8202 | | |

- Foster ongoing professional development of faculty and students, and the advancement of public health practice in the community through the development and implementation of continuing education programs.
- Conduct at least an annual evaluation of program activity to assure that it continues to meet the needs of both students and the Ohio community, and is based on the most current concepts and skills in public health research and practice.

A

Applications are sent to Northeastern Ohio Universities Master of Public Health, Division of Community Health Sciences, Northeastern Ohio Universities College of Medicine, 4209 State Route, PO. Box 95, Rootstown, Ohio 44272.

Students must meet the following admission requirements:

- Submit completed application by the required date
- Possess a bachelor's degree from an accredited college or university
- Provide official transcripts from each institution of higher education attended
- A minimum undergraduate GPA of 2.75
- Three letters of recommendation from individuals familiar with applicant's academic or professional background, submitted to: NEOUMPH Admissions Committee, Division of Community Health Sciences, NEOUCOM, 4209 State Route, PO. Box 95, Rootstown, Ohio 44272-0095. Letters should include assessments of the applicant's work quality and estimation of her/his ability to succeed in the program.

properties of polymers as related to process history as well as engineering analysis and design. Collaborative research among the faculty in the two departments is common and provides a unique environment and capability for solving modern-day problems. This provides a fertile environment for students to obtain multidisciplinary training.

ADMISSION REQUIREMENTS

Admissions to the graduate program in the college are competitive. The departmental admission committees carefully consider each applicant. Early application is suggested.

DEPARTMENT OF POLYMER SCIENCE

Students with an undergraduate degree in chemistry, physics, or engineering and a grade point average of 2.75/4.0 or better are admissible. Students holding a degree

| | | |
|---|---|---|
| 9841:621 | Rheology of Polymeric Fluids | 3 |
| 9841:622 | Analysis and Design of Polymer Processing Operations I | 3 |
| 9841:631 | Engineering Properties of Solid Polymers | 2 |
| 9841:641 | Polymeric Materials Engineering Science | 2 |
| • Polymer Engineering (600-level) electives | | |
| 9841:601 | Polymer Engineering Seminar | 1 |
| 9841:623 | Analysis and Design of Polymer Processing Operations II | 3 |
| 9841:642 | Engineering Aspects of Polymer Colloids | 2 |
| 9841:650 | Introduction to Polymer Engineering | 2 |
| 9841:651 | Polymer Engineering Laboratory | 3 |
| 9841:661 | Polymerization Reactor Engineering | 3 |

The Committee recommends 9841:651 to be compulsory for all full-time M.S. students, but it may be exempted as an elective for part-time students who currently employed in polymer and related industries.

• Mathematics electives

| | | |
|-------|----------------------|---|
| 3450: | Approved Mathematics | 3 |
|-------|----------------------|---|

• Technical electives:

| | | |
|-----------|--|---|
| 3400:xxx: | Approved Mathematics | 3 |
| 4300:681 | Advanced Engineering Materials | 3 |
| 4600:622 | Continuum Mechanics | 3 |
| 9871:613 | Polymer Science Laboratory | 3 |
| 9871:674 | Polymer Structure and Characterization | 2 |
| 9871:675 | Polymer Thermodynamics | 2 |

• Polymer Engineering (700-level) electives:

| | | |
|----------|-----------|----|
| 9841:7xx | Electives | 10 |
|----------|-----------|----|

A minimum of 36 credits of coursework is required for the Ph.D. in Polymer Engineering.

• Research (60 credits):

Students may take a combination of 9841:898 (Preliminary Research) and 9841:899 (Doctoral Dissertation) to meet this requirement, however, a minimum of 12 credits of the total 60 required must be of 9841:899.

- Fsa38ent, hoor4 Polymer Structure jE1g004ou0De0 c98 e(ancede)eetime-t4(1t1cl0o7co)20(w)20(e)20(v)20(er20(y t)-79 Tde-t4(1t1t1c 0 7.5 48 615 Tm[(•)-33).e.,ll-tim71: skill/s

Interdisciplinary and Certificate Programs of Study

Overview

To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a major, the student may elect to pursue one of these programs.

Interdisciplinary Studies programs feature courses which integrate and analyze issues and concepts from more than one field. The goal of this type of study is to place knowledge into greater perspective than would be possible through any one traditional field. This is accomplished by taking courses from a variety of departments as well as courses which may be team taught.

Upon completion of any of these programs, a statement will be placed on the student's permanent record indicating the area of concentration. The certificate indicating the area of concentration will be awarded when the student completes requirements for a degree unless the program specifies that it is free-standing and does not require participation in a degree program.

ACUTE CARE NURSE PRACTITIONER – POST-MASTER'S

The Post-Master's Acute Care Nurse Practitioner certificate program prepares acute care nurse practitioners to provide advanced practice nursing care to acutely and/or critically ill adults. The program requires one calendar year of intense study including advanced clinical practice and theory. The program is built upon the foundation of a master's degree in nursing.

ADVANCED CERTIFICATE IN GLOBAL CONFLICT AT THE CENTER FOR CONFLICT MANAGEMENT

The University of Akron has a long history of the interdisciplinary study of conflict, because understanding the nature of conflict is the first step toward reducing conflict and violence at home, in our communities, workplaces, and schools. This graduate certificate, jointly administered by the departments of Political Science and Sociology, will build on that tradition to enhance the capacity of students to effectively work toward reducing the harms associated with global conflict and violence.

R . . . C . . . :

Conflict Analysis Core Courses

| | | |
|----------|--|---|
| 3700:622 | Seminar in Alternatives to Violence at Home and Abroad | 3 |
| 3850:555 | Family Violence | 3 |

Skill Development Core Courses

| | | |
|--------------|-------------------------------------|---|
| 7400:585-008 | Seminar: General Mediation Training | 3 |
| 7400:585-007 | Seminar: Divorce Mediation Training | 3 |

E . . . C . . . : (choose three)*:

| | | |
|----------|-----------------------------------|---|
| 3850:521 | Race and Ethnic Relations | 3 |
| 3700:512 | Global Environmental Politics | 3 |
| 3700:610 | Seminar in International Politics | 3 |

REQUIREMENTS:

Students must successfully complete six credits of coursework selected from the various departmental courses listed below.

• Family and Consumer Sciences

| | | |
|----------|--|---|
| 7400:501 | Family-Life Patterns in the Economically Deprived Home | 2 |
| 7400:504 | Adolescence in the Family Context | 3 |
| 7400:540 | Family Crisis | 3 |
| 7400:546 | Culture, Ethnicity and the Family | 3 |
| 7400:602 | Family in Life-Span Perspective | 3 |
| 7400:607 | Family Dynamics | 3 |
| 7400:610 | Child Development Theories | 3 |
| 7400:651 | Family and Consumer Law | 3 |
| 7400:665 | Development in Infancy and Early Childhood | 3 |

• Home-Based Intervention

| | | |
|----------|---|---|
| 1820:503 | Home-Based Intervention Theory | 3 |
| 1820:504 | Home-Based Intervention Techniques and Practice | 3 |

CHILD AND ADOLESCENT HEALTH NURSE PRACTITIONER - POST-MSN

REQUIREMENTS:

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:

The program consists of four courses for a total of 17 credits. Students are required to complete a minimum of 600 clinical practice hours in conjunction with the Child and Adolescent Health Nursing courses.

| REQUIREMENTS: | COURSES: | CREDITS: |
|---------------|---|----------|
| 8200:651 | Child and Adolescent Health Nursing I | 3 |
| 8200:652 | Child and Adolescent Health Nursing I Practicum | 2 |
| 8200:655 | Child and Adolescent Health Nursing II | 3 |
| 8200:653 | Child and Adolescent Health Nursing II Practicum | 2 |
| 8200:656 | Pharmacology for Child and Adolescent Health Nursing | 3 |
| 8200:658 | Child and Adolescent NP Internship (required 4 credits) | 1-4 |
| | Total | 17 |

COMPOSITION

Lance Svehla, Ph.D., *Coordinator*

REQUIREMENTS:

To be eligible for the certificate in composition, a person must be admitted to the University as a graduate student (with either full or provisional status). An eligible person interested in the program should contact the program director. Five courses in composition and linguistics are required. Other appropriate English courses in composition or linguistics may be substituted as optional courses with the permission of the director.

| REQUIREMENTS: | COURSES: | CREDITS: |
|---------------|--|----------|
| 3300:676 | Theory and Teaching of Basic Composition | 3 |
| 3300:673 | Theories of Composition | 3 |
| 3300:674 | Research Methodologies in Composition | 3 |

OPTIONAL COURSES:

| | | |
|----------|--|---|
| 3300:570 | History of English Language | 3 |
| 3300:571 | U.S. Dialects: Black and White | 3 |
| 3300:589 | Seminar in English: Grammatical Structures of Modern English | 3 |
| 3300:575 | Theory of Rhetoric | 3 |
| 3300:589 | Seminar in English: Sociolinguistic | 3 |
| 3300:670 | Modern Linguistics | 3 |
| 3300:689 | Seminar in English: Stylistics | 3 |
| 3300:689 | Seminar in English: Contextual Linguistics | 3 |

DIVORCE MEDIATION

Helen Cleminshaw, Ph.D., *Coordinator*

REQUIREMENTS:

This graduate certificate program in divorce mediation requires a minimum of 15 graduate credits dependent upon previous educational background. The program has been designed to serve the practicing or prospective divorce mediator.

All applicants to the program should have previously earned a law degree or a master's degree (at minimum in the behavioral sciences, such as psychology, social work, counseling, and marriage and family therapy, or child and family development). Applicants planning to pursue the certificate must apply to the Center for Family Studies and the Graduate School for admission as non-degree students. Persons currently working toward a doctorate or Juris Doctor at the University may participate in the certificate program as a cognate or minor. In this case, students must receive permission from their academic department as well as admission from the Center for Family Studies. Since the educational preparation prior to entry to this program will be quite diverse, the selection of courses within the certificate will vary among the participants. However, all students are expected to complete the core courses in addition to 10 credit hours selected from among several disciplines related to divorce mediation.

COURSES:

| | | |
|----------|-----------------------------|---|
| 1800:601 | Divorce Mediation | 3 |
| 1800:602 | Divorce Mediation Practicum | 2 |

REQUIREMENTS:

- Law

| | | |
|----------|---------------------|---|
| 9200:638 | Family Law | 3 |
| 7400:651 | Family Consumer Law | 3 |

- Accounting

| | | |
|----------|------------------------|---|
| 6200:601 | Financial Accounting | 3 |
| 9200:621 | Accounting for Lawyers | 3 |

- Family

| | | |
|----------|--|---|
| 5600:655 | Marriage and Family Therapy: Theory and Techniques | 3 |
| 5600:667 | Marital Therapy | 3 |
| 7400:607 | Family Dynamics | 3 |

REQUIREMENTS:

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 | Family and Divorce | 2 |
| 7400:602 | Family in Life-Span Perspective | 2 |
| 9200:684 | Alternate Dispute Resolution | 3 |

E-BUSINESS

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

A new model for business (e-Business) is taking shape that is built on the world's largest communications network, the Internet. The Internet has opened up new possibilities for organizing and running a business and is changing the way businesses transact goods and services. The Internet creates a global platform for buying and selling goods and is used for redesigning business processes within organizations. As businesses invest in the commercialization of the Internet/WWW, there is an enormous need from a variety of fronts to understand the implications for strategic initiatives, marketing and advertising, financial markets, information systems strategy, human resource management, supply chain management and legal issues. A certificate program in e-Business is designed for students to learn how organizations can use Internet technology to create new business opportunities and how they can transform an existing business into an e-Business.

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

REQUIREMENTS:

| | | |
|----------|--------------------------|---|
| 6500:620 | E-Business Foundations | 3 |
| 6500:622 | E-Business Technologies | 3 |
| 6400:685 | E-Business: Legal Issues | 3 |

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E-LEARNING

Sajit Zachariah, Ed.D., *Coordinator*

P

This certificate program in e-Learning requires a minimum of 16 credit hours. The certificate in e-Learning Technologies has been designed to assist students in becoming competent, employable professionals capable of making a significant contribution in the field of education and training. The graduate curriculum provides its students with exposure to a wide range of distance learning technologies, while still ensuring the basic competencies required of all practitioners. In this way, the program directly addresses the rapidly accelerating changes in distance learning technologies.

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All applicants to the program should have previously earned a Bachelor's degree. Applicants wishing to pursue a Master's degree in Educational Foundations empha-

At least three (3) of the following courses must be taken:

| | | |
|----------|---|---|
| 4300:612 | Advanced Soil Mechanics | 3 |
| 4300:614 | Foundation Engineering I | 3 |
| 4300:615 | Foundation Engineering II | 3 |
| 4300:617 | Numerical Methods in Geotechnical Engineering | 3 |
| 4300:717 | Soil Dynamics | 3 |

Four of the following workshop courses may be taken and substituted for two (2) of the courses above:

| | |
|--|-----|
| Load and Resistance Factor Design of Foundations and Geotechnical Features | 1.5 |
| Ground Improvement Methods | 1.5 |
| Mechanically Stabilized Earth Walls and Reinforced Soil Slopes | 1.5 |

P **C** **I** **H** **E** **(III)**

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

Total hours required: 18.

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

HOME-BASED INTERVENTION THERAPY

Helen Cleminshaw, Ph.D., *Coordinator*

P

This certificate program is a special course of study along with undergraduate and graduate degree programs in various departments and colleges throughout the University. Undergraduate students will earn the certificate upon graduation in their degree program. Individuals who already hold undergraduate or graduate degrees may also pursue the certificate. Students with an undergraduate degree who do not seek a graduate degree may pursue the certificate in the postbaccalaureate program. Students who already hold a graduate degree may be admitted to the program as non-degree graduate students. Students pursuing graduate degrees will receive their graduate certificate upon completion of the requirements for their graduate degree. The program represents a concentration in current theoretical knowledge and practice in home-based intervention. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that relate to services to at-risk children and their families.

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MID-CAREERS PROGRAM IN URBAN STUDIES

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The program will require the completion of 16 graduate credits in a single area or in several areas in the urban field. Upon the completion of the program, a certificate will be granted.

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A student must satisfy the requirements for entrance in graduate programs or have a bachelor's degree and the equivalent of five years' experience in a professional, administrative or leadership position, in which case the student shall be admitted as a non-degree student. A student may wish to pursue additional electives. However, a student admitted to this program will be limited to 20 credits.

NURSING EDUCATION

The certificate in Nursing Education allows for advanced role specialization in nursing education. Four sequential courses for a total of 12 credit hours comprise the certificate requirements. The certificate program is open to all current master's and doctoral students in the College of Nursing, post-baccalaureate students, post-MSN students, post-doctoral and faculty currently teaching in nursing programs. Formal admission to The University of Akron is required as either a post-baccalaureate student, graduate student or non-degree graduate student. The awarding of this certificate is 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.

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

PARENT AND FAMILY EDUCATION

Susan D. Witt, Ph.D., *Coordinator*

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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 concentr20(he A)2.[(T)20(his ot5: ourse of2tDUCArepresents a concentr2Ph.D)50(,)TJ-0.03011 Tc 0 Tw 9 0 1.9128 Tw 0ledg certifica46720(his ot5,)pant
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suings a graduate degree in other departments at the University may be admitted upon the recommendation of the chair of the department in which they are enrolled.

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Each student enrolled in the program shall complete three of the following courses: one from the Department of Economics, one from the Department of Political Science and one from the Department of Sociology.

- Economics (choose one)

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| 3250:530 | Human Resource Policy | 3 |
| 3250:606 | Public Finance | 3 |
| 3250:665 | Seminar on Economic Planning | 3 |

- Political Science (choose one)

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|----------|--|---|
| 3700:541 | The Policy Process | 3 |
| 3700:542 | Methods of Policy Analysis | 3 |
| 3700:668 | Seminar in Public Policy Agendas and Decisions | 3 |
| 3700:670 | Seminar in the Administrative Process | 3 |

- Sociology (choose one)

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| 3850:613 | Sociology of Program Evaluation and Program Improvement | 3 |
| 3850:679 | Political Sociology | 3 |

In addition to the courses listed above, each student, after receiving the approval of his or her advisor, shall complete two courses related to public policy.

Each student shall complete a scholarly paper dealing with public policy under the direction of a graduate faculty member in the departments of economics, political science or sociology. The student shall enroll for three credits in one of the following courses: 3250:697/698 *Reading in Advanced Economics*; 3700:697 *Independent Research and Readings* or 3850:697 *Readings in Contemporary Sociological Literature*. The student's paper shall be evaluated by an interdisciplinary committee consisting of graduate faculty from at least two of the previously mentioned departments.

All persons enrolled in the Graduate Certificate Program in Public Policy must successfully complete 3700:695 *Internship in Political Science*, a course which will permit a student to gain experience working with public officials, government agencies, political parties or interest groups. A student will normally enroll in this course after having completed at least 12 semester credits of work relating to public policy. A person with extensive administrative or governmental experience may be permitted, with the approval of the student's advisor, to substitute another course dealing with public policy in place of the Internship in Political Science.

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

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Minimum: 19 Credits

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| 5400:500 | Postsecondary Learner | 3 |
| 5400:501 | Learning with Technology | 1 |
| 5400:515 | Training in Business and Industry | 3 |
| 5400:530 | Systematic Curriculum Design for Postsecondary Instruction | 3 |
| 5400:535 | Systematic Instructional Design in Postsecondary Education | 3 |
| 5400:690 | Internship in Postsecondary Education | 3 |
| 5100:520 | Introduction to Instructional Computing | 3 |

The Internship is the last course taken. This course can not be taken until all other certificate courses have been completed with a 3.0 GPA or better.

TRANSPORTATION ENGINEERING

This certificate program provides practicing professionals an opportunity to expand their knowledge base in the design and operation of transportation systems. It is designed for people who cannot make the full time commitment to the graduate degree program but would like to receive recognition of their continued effort in the area of study or would like to cumulate credit hours toward their ultimate graduate degree goal.

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Arts and Sciences

BIOLOGY

3100:

- 500 FOOD PLANTS** *2 credits*
Prerequisite: 311 or permission of instructor. A survey of the plants used for human food, including their history, structure, uses.
- 506 PRINCIPLES OF SYSTEMATICS** *3 credits*
Prerequisites: 112, 211, 316. The science of identifying, naming, and classifying the diversity of life. Topics include: nomenclature, types, techniques of data collection, and methods of phylogenetic reconstruction.
- 512 ADVANCED ECOLOGY** *3 credits*
Prerequisite: 217. Advanced study of the ecology of individuals, populations, communities, and conservation/applied ecology. Active participation/discussion of primary literature in ecology is required.
- 518 FIELD ECOLOGY** *4 credits*
Prerequisite: 217 (statistics strongly recommended). Introduction to sampling methods, design of experiments and observations, and computer analysis; some local natural history.
- 521 TROPICAL FIELD BIOLOGY** *4 credits*
Prerequisite: 111/112 or equivalent. Ecology of coral reefs, tide pools, mangroves, intertidal zones, terrestrial flora and fauna, island biogeography. Taught at a field station in the tropics.
- 523 POPULATION BIOLOGY** *3 credits*
Prerequisites: 211 and 217. 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** *4 credits*
Prerequisite: 217. Wetland ecology; principles and conservation. Field studies will be conducted at Bath Nature Preserve. Laboratory. Field trips involved; minor transportation costs.
- 527 AQUATIC ECOLOGY** *4 credits*
Prerequisite: 217 or permission of instructor. Explores life in freshwater and marine systems, emphasizing the Great Lakes ecosystem. Includes field trips. Laboratory.
- 528 BIOLOGY OF BEHAVIOR** *2 credits*
Prerequisites: 211, 217 and 316. Biological basis of behavior; ethological theory; function, causation, evolution and adaptiveness of behavior. May be taken without 429/529.
- 529 BIOLOGY OF BEHAVIOR LABORATORY** *2 credits*
Prerequisites or corequisites: 428/528 and permission of instructor. Individualized, directed study to provide the student with firsthand experience in observing, describing and interpreting animal behavior.
- 530 COMMUNITY/ECOSYSTEM ECOLOGY** *4 credits*
Prerequisite: 217. History of the ecosystem concept: components, processes, and dynamics of communities and ecosystems; analysis and design of ecosystem experiments. Laboratory.
- 533 PATHOGENIC BACTERIOLOGY** *4 credits*
Prerequisite: 331. 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** *4 credits*
Prerequisite: 211; prerequisite or corequisite: 331; recommended 311. Nature of antigens, antibody response, and antigen-antibody reactions. Site and mechanism of antibody formations, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.
- 539 ADVANCED IMMUNOLOGY** *3 credits*
Prerequisite: 437. Immunology is studied from a historical and current perspective. Topics include T cells, B cells, antigen presentation, HIV, and transplantation.
- 540 MYCOLOGY** *4 credits*
Prerequisite: 112. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to humans. Laboratory.
- 541 PLANT DEVELOPMENT** *4 credits*
Prerequisite: 112 and one year of organic chemistry. Embryology and morphogenesis of plants in relation to physical, chemical, genetic and spatial factors. Laboratory.
- 542 PLANT ANATOMY** *3 credits*
Prerequisite: 112. Structure and development of cells, tissues, organs and organ systems of seed plants. Laboratory.
- 543 PHYCOLOGY** *4 credits*
Prerequisite: 112. Examination of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory.
- 544 FIELD MARINE PHYCOLOGY** *3 credits*
Prerequisite: 112. Collection and identification of tropical marine algae on San Salvadore Island, The Bahamas. Discussion of characteristics and ecology of major groups of Caribbean algae. Laboratory.
- 545 PLANT MORPHOLOGY** *4 credits*
Prerequisite: 112. Structure, reproduction, life cycles, ecology, evolution, economic significance of land plants: bryophytes, club-mosses, whisk ferns, horsetails, ferns, seed plants. Laboratory. Field trips involved; minor transportation costs.
- 551 GENERAL ENTOMOLOGY** *4 credits*
Prerequisite: 112, 217. Structure, physiology, life cycles, economic importance characteristics of orders and major families of insects. Laboratories parallel lectures.
- 553 INVERTEBRATE ZOOLOGY** *4 credits*
Prerequisites: 112, 217. Invertebrate groups, their classification, functional morphology, adaptive radiation and life history. A phylogenetic approach is used. Laboratories parallel lectures.
- 554 PARASITOLOGY** *4 credits*
Prerequisites: 112, 3150:201. Principles of parasitism; host parasite interactions; important human and veterinary parasitic diseases; and control measures. Laboratories parallel lectures.
- 555 ICHTHYOLOGY** *4 credits*
Prerequisite: 217. Study of fishes; incorporates aspects of evolution, anatomy, physiology, natural history, and commercial exploitation of fishes. Laboratory incorporates field-based exercises and fish taxonomy.
- 556 ORNITHOLOGY** *4 credits*
Prerequisite: 112. Introduction to biology of birds: classification, anatomy, physiology, behavior, ecology, evolution, natural history and field identification. Laboratory. Field trips involved; minor transportation costs.
- 557 HERPETOLOGY** *4 credits*
Prerequisite: 112. Survey of the diversity, ecology and evolution of amphibians and reptiles. Special emphasis is given to Ohio species. Laboratory.
- 558 VERTEBRATE ZOOLOGY** *4 credits*
Prerequisite: 316 or permission. Biology of vertebrates, except birds – evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.

- 561,2 HUMAN PHYSIOLOGY** *4 credits each*
Prerequisite: senior or graduate standing. Detailed study of function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal and endocrine physiology. Laboratory.
- 565 ADVANCED CARDIOVASCULAR PHYSIOLOGY** *3 credits*
Prerequisite: 202 or 363 or 473/573. 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** *4 credits*
Lectures focus on development of model vertebrate organisms and cellular and molecular mechanisms underlying animal development. Laboratory focuses on frog and chick development.
- 567 COMPARATIVE VERTEBRATE MORPHOLOGY** *4 credits*
Prerequisite: 112 or permission of instructor. An introduction to the comparative morphology of major vertebrates. The laboratory consists of dissections of representative vertebrates.
- 568 THE PHYSIOLOGY OF REPRODUCTION** *3 credits*
Prerequisites: 202 or 363 or 473/573. 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** *3 credits*
Prerequisites: 202 or 363 or 473/573. 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.)

- 631 HUMAN GROSS ANATOMY II** 3 credits
Prerequisite: graduate standing and permission. An intensive survey of human macromorphology.
- 695 SPECIAL TOPICS: BIOLOGY/NEOUCOM** 1-6 credits
Prerequisite: permission of instructor. Advanced topics in medical education covering areas not otherwise available. May be repeated with a change in topic.

CHEMISTRY 3150:

- 501 BIOCHEMISTRY LECTURE I** 3 credits
Prerequisite: 264. Biochemistry of amino acids, carbohydrates, lipids, and nucleic acids: structure/function relations. Enzymes as catalysts: kinetics and regulation. Cofactors.
- 502 BIOCHEMISTRY LECTURE II** 3 credits
Prerequisite: 401/501. Overview of metabolism; thermodynamics; carbohydrate, fatty acid, amino acid, and nucleoside anabolism and catabolism; hormonal control of metabolism. Photosynthesis.
- 572 ADVANCED INORGANIC CHEMISTRY** 3 credits
Prerequisite: 213 and 214. Describes periodic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.
- 590 WORKSHOP IN CHEMISTRY** 1-3 credits
(May be repeated) Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.
- 603 BIOCHEMISTRY LECTURE III** 3 credits
Prerequisite: 501 and 502. DNA, RNA and protein metabolism. Translation and transcription. Gene function and expression.
- 610 BASIC QUANTUM CHEMISTRY** 3 credits
Prerequisite: 314 or permission of instructor. Quantum mechanics with applications to molecular systems. Includes angular momentum, molecular hamiltonians, variation and perturbation methods and molecular orbital theories.
- 611 SPECTROSCOPY** 3 credits
Prerequisite: 610 or permission of instructor. Interaction of light with matter, linear

- 520 ARCHAEOLOGY OF OHIO** *3 credits*
Prerequisites: 250. Provides detailed overview of Ohio's prehistoric cultures and the early historic period focusing on cultural evolution and environmental relationships.
- 540 ARCHAEOLOGICAL LABORATORY METHODS** *3 credits*
Prerequisite: 250. Corequisite: 0-credit laboratory enrollment. Laboratory-based course teaching essentials of artifact documentation, handling and analysis. Focus on quantification, statistics, conservation, illustration, lithics, ceramics, paleofaunal, paleobotanical remains and soils.
- 550 ARCHAEOLOGICAL FIELD SCHOOL** *3 credits*
Field-based course teaching basic archaeological techniques: mapping, excavation of prehistoric and historic sites, survey and documentation. Repeatable for up to 6 credits.
- 572 SPECIAL TOPICS IN ARCHAEOLOGY** *3 credits*
Prerequisite: 250 or permission. Designed to meet the needs of students with interests in selected topics in archaeology. Offered irregularly when resources and opportunities permit. May include archaeological field school, laboratory research or advanced course work not presently offered by department on a regular basis.

ECONOMICS

3250:

- 506 STATE AND LOCAL PUBLIC FINANCE** *3 credits*
Prerequisite: 410; recommended: 405. Examines economic rationale and problems for provision of goods and services by different governmental units. Considers alternative revenue sources and special topics.
- 523 APPLIED GAME THEORY** *3 credits*
Prerequisite: 200. Application of the basic concepts of game theory (analysis of strategic behavior) to relevant economic issues including bargaining, cartels, voting, conflict resolution, and non-competitive pricing.
- 527 ECONOMIC FORECASTING** *3 credits*
Prerequisites: 200 and 201 or 244, 3470:261, and 3470:262. 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.
- 530 LABOR MARKET AND SOCIAL POLICY** *3 credits*
Prerequisites: 333. Intensive study of current labor and social policy issues (e.g. discrimination, poverty, migration, education, demographic and labor market changes, impact of international trade on employment).
- 534 LABOR MARKET ANALYSIS AND EVALUATION** *3 credits*
Prerequisites: 410, 426, and 430. Applied labor market research using specialized techniques. Employment, health, education, and other current policy issues and programs analyzed and

- 570 HISTORY OF ENGLISH LANGUAGE** *3 credits*
Prerequisites: 111 and 112 or their equivalents, or permission of the instructor. Development of English language, from its beginnings: sources of its vocabulary, its sounds, its rules; semantic change; political and social influences on changes; dialect origins; correctness.
- 571 U.S. DIALECTS: BLACK AND WHITE** *3 credits*
Prerequisites: 111 and 112 or their equivalents, or permission of the instructor. Study of differences in pronunciation, vocabulary and grammar among U.S. language varieties. Origins, regional and social dimensions are explored. Correctness, focusing on black English and Appalachian speech, explored.
- 572 SYNTAX** *3 credits*
Prerequisites: 371, 111 and 112 or their equivalents, or permission of the instructor. Principles of syntactic description. Sentence structures are investigated from a variety of languages,

- 595 SOIL AND WATER FIELD STUDIES** *3 credits*
Prerequisite: 310 or permission. Properties, origins and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.
- 596 FIELD RESEARCH METHODS** *3 credits*
Prerequisite: 481/581 or permission. Field work enabling student to become competent in collecting, organizing and analysis of data while carrying out field research projects.
- 600,1,2 SEMINAR** *3 credits each*
(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.
- 630 PLANNING THEORY** *3 credits*
Introduction to the political, institutional and ethical foundations and procedural theories of urban and regional planning.
- 631 FACILITIES PLANNING** *3 credits*
Study of need, process and limitation of urban facilities planning.
- 633 COMPARATIVE PLANNING** *3 credits*
A survey of national, regional and local planning implementation measures in use in the developed world. Particular attention will be given to the planning experiences of European nations and their impact on American planning theory and practice.
- 680 ADVANCED SPATIAL ANALYSIS** *3 credits*
Prerequisite: 483/583 or permission. Advanced concepts and methodologies in geographic

- 501 JAPAN AND THE PACIFIC WAR, 1895-1945** *3 credits*
The rise of Japanese militarism, Japan's drive to create an empire in East and Southeast Asia, 1895-1945, and its role in the Pacific War, 1937-1945.
- 504 STUDIES IN ROMAN HISTORY** *3 credits*
Prerequisite: completion of 6 hours of History courses at the 200 or 300 level. Concentrated investigation of selected topics such as imperialism in middle and late Republic, the age of

MATHEMATICS 3450:

- 501 HISTORY OF MATHEMATICS** 3 credits
Prerequisite: 222. Origin and development of mathematical ideas. Course does not meet degree requirements in the department.
- 510 ADVANCED LINEAR ALGEBRA** 3 credits
Prerequisite: 317. Study of vector spaces, linear transformation, canonical and quadratic forms, inner product spaces.
- 511 ABSTRACT ALGEBRA I** 3 credits
Prerequisite: 307 or permission. Study of groups, rings, fields, integral domains, vector spaces, field extensions. Galois theory.
- 512 ABSTRACT ALGEBRA II** 3 credits
Prerequisite: 411/511 or permission of instructor. Study of groups, rings, fields, integral domains, vector spaces, field extensions, Galois theory.
- 513 THEORY OF NUMBERS** 3 credits
Prerequisite: 222 or permission. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.
- 515 COMBINATORICS AND GRAPH THEORY** 3 credits
Prerequisite: 222 or permission. Introduction to basic ideas and techniques of mathematical counting; properties of structure of systems.
- 520 MATHEMATICAL TECHNOLOGY AND COMMUNICATION** 3 credits
Prerequisites: 222 and 312 or permission of the instructor. Graphical, numerical, and algebraic computation with applications using a variety of mathematical hardware and software: symbolic manipulators, dynamic geometry software, programs, scripts and web browsers.
- 521,2 ADVANCED CALCULUS I AND II** 3 credits each
Sequential. Prerequisite: 223; 307 is highly recommended. 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.
- 525 COMPLEX VARIABLES** 3 credits
Prerequisite: 223. Complex variables; elementary functions, differentiation and analytic functions; integration and Cauchy's theorem; power series and Laurent series; residue theorem; applications such as conformal mappings, inversion of integral transform.
- 527 APPLIED NUMERICAL METHODS I** 3 credits
Prerequisites: 222 and 3460:209 or permission of instructor. Numerical methods in polynomial interpolation, rootfinding, numerical integration, and numerical linear algebra.
- 528 APPLIED NUMERICAL METHODS II** 3 credits
Prerequisites: 335 and 427/527 or permission of instructor. Numerical methods in the solution of ordinary and partial differential equations. Numerical differentiation, Runge-Kutta methods, and iterative methods for ODEs, finite differences for PDEs.
- 529 NUMERICAL SOLUTIONS FOR ORDINARY DIFFERENTIAL EQUATIONS** 3 credits
Prerequisite: 427/527. Mathematical analysis of numerical methods for solving ordinary differential equations. Runge-Kutta and linear multistep methods for initial value problems. Shooting, collocation and difference methods for boundary value problems.
- 530 NUMERICAL SOLUTIONS FOR PARTIAL DIFFERENTIAL EQUATIONS** 3 credits
Prerequisite: 428/528 or equivalent. For advanced undergraduate and graduate students. The study of finite difference and finite element methods for partial differential equations – consistency, stability, convergence and computer implementation.
- 532 PARTIAL DIFFERENTIAL EQUATIONS** 4 credits
Prerequisite: 335. The classical initial value and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.
- 535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS** 3 credits
Prerequisites: 335 and either 312 or 428 or permission. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.
- 536 MATHEMATICAL MODELS** 3 credits
Prerequisite: 335 and six-hour sequence in an approved applied area, or 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.
- 538 ADVANCED ENGINEERING MATHEMATICS I** 3 credits
Prerequisites: 335 and 312 or permission. Matrices, eigenvalue problems, systems of ODEs, vector analysis, complex variables.
- 539 ADVANCED ENGINEERING MATHEMATICS II** 3 credits
Prerequisites: 335 and 312 or permission. Special functions, Fourier series and transforms, PDEs.
- 541 CONCEPTS IN GEOMETRY** 4 credits
Prerequisite: 222 or permission of instructor; 307 is recommended. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.
- 545 INTRODUCTION TO TOPOLOGY** 3 credits
Prerequisite: 307 or permission of instructor. Introduction to topological spaces and topologies, mapping, cardinality, homeomorphisms, connected spaces, metric spaces.
- 589 TOPICS IN MATHEMATICS** 1-3 credits
(May be repeated for a total of six credits) Prerequisite: Permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.
- 591 WORKSHOP IN MATHEMATICS** 1-3 credits
(May be repeated) Group studies of special topics in mathematics and statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.
- 611 TOPICS IN ALGEBRA** 3 credits
Prerequisite: 412/512. Advanced study of selected topics in some of the following areas: semi-groups, groups, rings, modules and fields.
- 621 REAL ANALYSIS** 3 credits
Prerequisite: 422/522 or permission. In-depth study of real analysis – metric spaces, normed vector spaces, integration theory, Hilbert spaces.
- 622 MEASURE THEORY** 3 credits
Prerequisite: 621. Measure, measurable function, Lebesgue integral, convergence theorems, L_p -spaces, Radon-Nikodym theorem.
- 625 ANALYTIC FUNCTION THEORY** 3 credits
Prerequisite: 422/522. Complex number system, holomorphic functions, continuity, differentiability, power series, complex integration, residue theory, singularities, analytic continuation, asymptotic expansion.

528 UNIX SYSTEM PROGRAMMING

3 credits

Prerequisites: 316 and knowledge of C. An overview of the UNIX operating system. Shell programming, Process management, processor management, storage management, scheduling algorithms, resource protection, and system programming.

650 ADVANCED PROBABILITY AND STOCHASTIC PROCESSES *3 credits*
Prerequisite: 651 Random walk, distributions, unlimited sequence of trials, laws of large num-

- 625 QUANTUM MECHANICS I** *3 credits*
Prerequisites: 441/541, 481/581 or permission of instructor. Basic concepts of quantum mechanics, representation theory, particle in a central field, addition of angular momenta and spins, Clebsch-Gordon coefficients, perturbation theory, scattering, transition probabilities.
- 626 QUANTUM MECHANICS II** *3 credits*
Prerequisite: 625. Foundations of relativistic quantum mechanics. Klein-Gordon and Dirac equations, spin-zero and spin-1/2 particles in electromagnetic field, second quantization of bosons and fermions, superfluidity and super conductivity.
- 641 LAGRANGIAN MECHANICS** *3 credits*
Prerequisite: 432/532 or permission of instructor. Principle of least action and Lagrangian equa-

697 INDEPENDENT RESEARCH AND READINGS *1-4 credits*
(May be repeated, but no more than six credits toward the master's degree in political science)
Prerequisite: permission.

699 MASTER'S THESIS *2-6 credits*

PSYCHOLOGY **3750:**

500 PERSONALITY *4 credits*
Prerequisite: admission to the Graduate School. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings and research techniques.

510 PSYCHOLOGICAL TESTS AND MEASUREMENTS *4 credits*
Prerequisite: admission to the Graduate School. Consideration of the nature, construction and

- 740 INDUSTRIAL GERONTOLOGY** 4 credits
Prerequisites: 660, graduate standing in psychology, or permission of instructor. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, training, motivating and appraising older employees; health and safety; job design, vocational guidance; and retirement.
- 750 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS** 2 credits
Analysis of test construction and statistical analysis of tests with a review of measures used in psychology. Study of psychometric theory and principles.
- 751 ORGANIZATIONAL PSYCHOLOGY** 4 credits
Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Applies the general systems theory framework to the study of the relationships between organizational characteristics and human behavior, the internal processes of organizations, and the relationships between organizations and their environment.
- 752 PERSONNEL SELECTION AND ADVANCED APPLIED TESTING ISSUES** 4 credits
Review of strategies employed by industrial/organizational psychologists for personnel selection, placement and promotion. Includes discussion of advanced testing issues.
- 753 TRAINING** 2 credits
Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Review of industrial training methods and programs in terms of various theoretical orientations, as well as consideration of techniques to evaluate these programs.
- 754 RESEARCH METHODS IN PSYCHOLOGY** 2-4 credits
Prerequisites: 660, graduate standing in psychology or permission of instructor. Scientific method and its specific application to psychology. Topics include data collection, validity, reliability, use of general linear model and its alternatives and power analysis.
- 755 COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH** 4 credits
Prerequisite: graduate standing in psychology or permission of instructor. Practicum in application of computers to psychological research including data collection, analysis and interpretation. Also covers computer simulation of decision making including use of different models.
- 756 ROLE OF ATTITUDES AND VALUES IN INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY** 4 credits
Prerequisites: 660, graduate standing in psychology, or permission of the instructor. Consideration of the role of attitudes and values in the prediction of behavior including consumer psychology, explaining attitude changes, measurement of attitudes and the use of survey methodology.
- 757 ORGANIZATIONAL MOTIVATION AND LEADERSHIP** 4 credits
Prerequisites: 660, graduate standing in psychology, or permission of instructor. Survey of theories of motivation specifying both the intrinsic and extrinsic determinants of worker motivation. The leadership process and its relation to motivation, group performance and attributions is also analyzed.
- 759 JOB EVALUATION AND EQUAL PAY** 4 credits
Prerequisite: 660. Major job evaluation systems will be reviewed and critiqued. Issues such as minimum qualifications for a job will be reviewed. Advantages and disadvantages of various job evaluation systems will be compared. Issues concerning federal regulation including the Equal Pay Act, comparable worth and other issues will be discussed. Regression approaches to job evaluation and applicable court cases will be reviewed.
- 760 ORGANIZATIONAL CHANGE AND TRANSFORMATION** 4 credits
Prerequisites: 660 or permission of instructor. Survey of theories and introduction to practical methods of organizational change and transformation used to increase organizational effectiveness and improve employee quality of work life.
- 761 INFORMATION PROCESSING AND INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY** 4 credits
Prerequisite: 660. Coverage of current theories in cognitive psychology is applied to traditional concerns of industrial/organizational psychology such as performance appraisal or motivation.
- 762 PERSONNEL PSYCHOLOGY AND THE LAW** 4 credits
Prerequisite: 660. Issues in personnel psychology which have legal implications are reviewed. The impact of recent court decisions are evaluated in staffing and compensation.
- 763 PERFORMANCE FEEDBACK AND EVALUATION** 4 credits
Prerequisite: 660, graduate standing in psychology, or permission of instructor. Examines current research and practice in the area of performance appraisal. Topics will include: criterion development, rater training, appraisal effectiveness, feedback processes, and performance measurement.
- 780 GRADUATE SEMINAR IN PSYCHOLOGY** 1-4 credits
(May be repeated.) Prerequisites: graduate standing in psychology and permission of the instructor. Special topics in psychology.
- 795 ADVANCED COUNSELING PRACTICUM** 4 credits
(May be repeated.) Prerequisites: 671, 672, 673 and permission of instructor. This course provides graduate students in counseling with actual client contacts and supervisory experiences under faculty supervision. Credit/noncredit.
- 796 COUNSELING PSYCHOLOGY PRACTICUM** 4 credits
(May be repeated.) Prerequisite: 795 (eight hours) or 5600:675 (five hours). Advanced counseling psychology students will have supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications. Credit/noncredit.
- 797 INDEPENDENT READING AND/OR RESEARCH** 1-3 credits
(May be repeated.) Prerequisite: permission of the instructor. Individual readings and/or research on a topic under supervision of faculty member with whom specific arrangements have been made.
- 899 DOCTORAL DISSERTATION** 1-12 credits
Prerequisite: open to properly qualified students. Required minimum 12 credits; maximum subject to departmental approval. Supervised research on topic deemed suitable by the dissertation committee.
- 521 RACIAL AND ETHNIC RELATIONS** 3 credits
Prerequisite: 100 or permission. Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture.
- 523 SOCIOLOGY OF WOMEN** 3 credits
Prerequisites: 100 or permission of instructor. Examination of research and theories pertaining to women's status in society, including economic conditions, the relationship between structure and experience, and other gender-related issues.
- 525 SOCIOLOGY OF URBAN LIFE** 3 credits
Prerequisite: 100 or permission. Emergence and development of urban society. Examination of urban social structure from neighborhood metropolis, the problems and prospects. Emphasis on various life styles of urban subcultures. Lecture/discussion.
- 528 THE VICTIM IN SOCIETY** 3 credits
Prerequisites: 100 or permission of instructor. Study of the nature, causes, and consequences of victimization with special focus on crime victimization.
- 530 JUVENILE DELINQUENCY** 3 credits
Prerequisite: 100 or permission. Analysis of social structure and process from which delinquency develops. Emphasis on current and past research. Lecture/discussion.
- 531 CORRECTIONS** 3 credits
Prerequisite: 330 or 430. Theories, beliefs and practices of community and institutional corrections systems, including past and current social research. Course taken prior to 3 credit hour Field Placement in Corrections (3850:471).
- 512 SOCIALIZATION: CHILD TO ADULT** 3 S O

SOCIOLOGY

3850:

- 510 SOCIAL STRUCTURES AND PERSONALITY** 3 credits
Prerequisite: 100 or permission. Interrelationships between position in society, personality characteristics. Personality treated as both result and determinant of social structure and process. Lecture.
- 511 SOCIAL INTERACTION** 3 credits
Prerequisite: 100 or permission. Intensive study of advanced theory and research in social psychology, particularly how social interaction and self-conception affect one another. Lecture.
- 512 SOCIALIZATION: CHILD TO ADULT** 3 credits
Prerequisite: 100 or permission. Theoretical and empirical analyses of process by which infant, child, adolescent and adult learn social and cultural requirements necessary to function in new roles, changing roles and society in general.

- 626 GRANTSMANSHIP** *3 credits*
Students will gain knowledge of the grant-seeking and awarding processes. Emphasis is on public funding opportunities and public organizations in the states.
- 636 PARKS AND RECREATION** *3 credits*
Prerequisite: permission. Deals with theory, practice, evaluation of recreational administration, parks planning.
- 640 FISCAL ANALYSIS** *3 credits*
Prerequisite: permission. Study of revenue and expenditure patterns of the city's government.
- 641 URBAN ECONOMIC GROWTH AND DEVELOPMENT** *3 credits*
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.
- 642 PUBLIC BUDGETING** *3 credits*
Prerequisite: permission. Current professional practice and theoretical issues in public budgeting and management of capital and operating budgets.
- 643 INTRODUCTION TO PUBLIC POLICY** *3 credits*
Prerequisite: permission. Introduction to models of public policy formulation; identification of major policy issues; and the analysis of policy implementation and policy impact.
- 644 PUBLIC SECTOR FUND MANAGEMENT** *3 credits*
Prerequisite: 640, 642. Provides an overview of theoretical approaches for recording and reporting data related to public projects or programs and reviews methods for investing project funds.
- 650 COMPARATIVE URBAN SYSTEMS** *3 credits*
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.
- 660 STRATEGIC MANAGEMENT IN PUBLIC AND NON PROFIT SECTORS** *3 credits*
This course examines disciplined effort to produce fundamental decisions and actions that shape what public organizations are, 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 implementation, 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 concerns of leadership, resource development, aspects of volunteerism, 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 information as an organizational asset.
- 670 RESEARCH FOR FUTURES PLANNING** *3 credits*
Prerequisites: 600 and 601 and completion of eight credits of core curriculum in urban studies. An overview of the techniques associated with the field of futures research and their application to long-term urban planning.
- 671 PROGRAM EVALUATION IN URBAN STUDIES** *3 credits*
Prerequisite: 600 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of human service programs and policies affecting urban and metropolitan areas.
- 672 ALTERNATIVE URBAN FUTURES** *3 credits*

- 535 PROCESS ANALYSIS AND CONTROL** *3 credits*
Prerequisites: 330, 353. This course is intended for a student holding a BS in a discipline other than engineering. Response of simple and chemical processes and design of appropriate control systems.
- 541 PROCESS DESIGN I** *3 credits*
Prerequisites: 330, 351, 353. Application of chemical engineering fundamentals to the design of a multi-unit process. Emphasis on use of process simulators. Advanced equipment design, oral, written communication skills, teamwork.
- 561 SOLIDS PROCESSING** *3 credits*
Prerequisites: 321 and 353 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving mechanics of particulate solids in liquid and gas continua.
- 563 POLLUTION CONTROL** *3 credits*
Prerequisite: 353 or permission. Air and water pollution sources and problems. Engineering aspects and methodology.
- 566 DIGITIZED DATA AND SIMULATION** *3 credits*
Prerequisite: permission. Data acquisition and analysis by digital devices, digital control applications and design.
- 570 ELECTROCHEMICAL ENGINEERING** *3 credits*
Prerequisites: 322, 330. Chemical engineering principles as applied to the study of electrode processes and to the design of electrochemical reactors. Topics include electrochemical ther-

- 528 HAZARDOUS AND SOLID WASTES** 3 credits
Prerequisite: senior standing or permission of instructor. Hazardous and solid waste quantities, properties and sources are presented. Handling, processing, storage and disposal methods are discussed with non-technical constraints outlined.
- 543 APPLIED HYDRAULICS** 3 credits
Prerequisite: 341 Review of design principles; urban hydraulics, steam channel mechanics, sedimentation, coastal engineering.
- 551 COMPUTER METHODS OF STRUCTURAL ANALYSIS** 3 credits
Structural analysis using microcomputers; finite element software, interactive graphics; beam stiffness concepts and matrix formulation; simple and complex structural systems modeling; vibration analysis.
- 553 OPTIMUM STRUCTURAL DESIGN** 3 credits
Prerequisite: 306. Basic concepts in structural optimization. Mathematical programming methods including unconstrained minimization, multidimensional minimization and constrained minimization.
- 554 ADVANCED MECHANICS OF MATERIALS** 3 credits
Prerequisite: 202 or equivalent. Three-dimensional state of stress and strain analysis. Unsymmetric bending of straight and curved members with shear deformation. Beams on elastic foundations. Saint Venant's torsional problems. Inelastic analysis of bending and torsional members. Introduction to energy method. Instability behavior of prismatic members.
- 563 TRANSPORTATION PLANNING** 3 credits
Prerequisite: 361 Theory and techniques for development, analysis and evaluation of transportation system plans, Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.
- 564 HIGHWAY DESIGN** 3 credits
Prerequisite: 361 Study of modern design of geometrical and pavement features of highways. Design problem and computer use. Graduate students will produce a more complete design.
- 565 PAVEMENT ENGINEERING** 3 credits
Prerequisite: 361 Theories of elasticity, of viscoelasticity and of layered systems as applied to pavements. Pavement materials characterization; pavement design, pavement restoration for rigid and flexible pavements.
- 566 TRAFFIC ENGINEERING** 3 credits
Prerequisite: 361 Vehicle and urban travel characteristics, traffic flow theory, traffic studies, accidents and safety, traffic signs and marking, traffic signal planning, traffic control and transportation administration.
- 567 ADVANCED HIGHWAY DESIGN** 3 credits
Prerequisite: 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
Prerequisites: 361, 380 or 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 requirement: Graduate students will be required to perform an additional eight-hour asphalt laboratory (Absorb recovery of asphalt from solution) and to prepare a paper on a highway materials topic.
- 574 UNDERGROUND CONSTRUCTION** 2 credits
Prerequisite: 314. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.
- 604 DYNAMICS OF STRUCTURES** 3 credits
Prerequisite: 306. Approximate, rigorous dynamic analysis of one, two, multiple and infinite degrees of freedom structural systems. Elastoplastic, plastic analysis. Equivalent systems, dynamic hinge concept. Modal analysis. Transfer matrices. Fourier, Laplace transforms.
- 605 STRUCTURAL STABILITY** 3 credits
Prerequisite: 554 or equivalent. Buckling of bars, beam-columns and frames. Lateral buckling of beams. Double and tangent modulus theories. Energy methods. Compressed rings and curved bars. Torsional buckling. Buckling of plates and shells. Inelastic buckling.
- 606 ENERGY METHODS AND ELASTICITY** 3 credits
Prerequisite: 202. Work and complementary work. Strain energy and complementary strain energy. Virtual work and Castigliano's theorems. Variational methods. Applications. Formulation of boundary value problems in elasticity. Selected topics in energy methods and elasticity.
- 607 PRESTRESSED CONCRETE** 3 credits
Prerequisite: 404. Basic concepts. Design of double-tee roof girder; shear; development length; column; piles; design of highway bridge girder; pretensioned, post-tensioned; continuous girders; corbels; volume-change forces; connections.
- 608 MULTISTORY BUILDING DESIGN** 3 credits
Prerequisite: 401 Floor systems; staggered truss system; braced frame design; unbraced frame design; drift indices; monocoque (tube and partial tube) systems; earthquake design; fire protection. Analysis by STRUDL.
- 609 FINITE ELEMENT ANALYSIS I** 3 credits
Prerequisite: 554 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 nonlinearity.
- 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
Prerequisite: 314. In-depth examination of structure and fundamental physico-chemical and mechanical properties of engineering soils viewed as particulate matter.
- 612 ADVANCED SOIL MECHANICS** 3 credits
Prerequisite: 314. Study of mechanics of behavior of soil as continuum. Principles of stress, strain, deformation, shear strength and pore water pressure as applied to mechanical behavior of soil masses.
- 613 ADVANCED GEOTECHNICAL TESTING** 3 credits
Prerequisites: 518, 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
Prerequisite: 313 or 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, tiebacks and bulkheads.
- 615 FOUNDATION ENGINEERING II** 3 credits
Prerequisite: 614 or permission. Soil-structure interaction theory and applications to under ground structures including conduits, tunnels and shafts. Advanced foundation construction methods and problems including dewatering, soil stabilization, underpinning and cofferdams. Slope stability analysis.
- 616 SOIL IMPROVEMENT** 3 credits
Prerequisites: 313 and 314. Admixture stabilization, precompression with vertical drains, blasting, vibrocompaction, injection and grouting, thermal methods, electro-osmosis, soil reinforcement, case studies.
- 617 NUMERICAL METHODS IN GEOTECHNICAL ENGINEERING** 3 credits
Prerequisites: 313 and 314. 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 problems; 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
Prerequisite: 323. Application of both laboratory methods and theory to solution of sanitary engineering problems involving water pollution, stream regeneration, special industrial wastes, detergents and others.
- 621 ENVIRONMENTAL ENGINEERING PRINCIPLES** 4 credits
Corequisite: 523. Provide the basic principles of chemical reaction engineering, microbiology, environmental regulations, and contaminant migration required for the understanding and solving environmental problems.

683 PLASTICITY

3 credits

Prerequisite: 682, 4600:622 or equivalent. Mathematical formulation of constitutive equations

- 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, Lyapunov theory, bifurcation of attractors, and routes to chaos.
- 674 CONTROL SYSTEM THEORY** *3 credits*
Prerequisite: 371 or instructor permission. Advance modern control theory for linear systems. Controllability, observability, minimal realizations of multivariate systems, stability, state variable feedback, estimation, and an introduction to optimal control.
- 675 SYSTEM SIMULATION** *3 credits*
Prerequisite: 472 or permission of the instructor. This course is designed to provide the control engineer with tools necessary to simulate continuous systems on a digital computer. Topics include linear multistep methods, nonlinear methods, stiff systems, optimization, parallel computing and simulations languages.
- 676 RANDOM PROCESS ANALYSIS** *3 credits*
Prerequisite: 674. Analysis and design of control systems with stochastically defined input. Introduction to estimation filters.
- 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: 483/583 or equivalent. Averaged and sampled-data models for rectifiers and DC/DC converters. Small-and large-signal models about the cyclic steady-state. Feedback controls using classical and modern approaches.
- 681 POWER SYSTEM ANALYSIS** *3 credits*
Prerequisite: 480. Short circuit and load flow analysis of power systems with emphasis on

- 532 VEHICLE DYNAMICS** *3 credits*
 Prerequisites: 3450/335 or permission and 203 or permission. Application of dynamic systems analysis techniques to road vehicles. Newtonian and Lagrangian methods. Tire/road interface. Ride characteristics, handling and stability. Digital simulation.
- 540 SYSTEM DYNAMICS AND CONTROL** *4 credits*
 Prerequisites: 315, 431, or permission. Laplace transforms. Mathematical models of physical systems. Transient response and stability. Error analysis and system accuracy. Root locus methods in design. Frequency analysis and design. Compensation techniques.
- 541 CONTROL SYSTEMS DESIGN** *3 credits*
 Prerequisite: 340 or permission. Methods of feedback control design such as minimized error, root-locus, frequency domain. Compensation techniques. Multivariable and nonlinear design methods and computer-aided control design.
- 542 INDUSTRIAL AUTOMATIC CONTROL** *3 credits*
 Prerequisite: 441 or permission. Operation of basic control mechanisms. Study of mechanical, hydraulic, pneumatic, fluidic control systems, including application areas. Tuning of control devices for optimum performance of system. Case studies on control applications from industry, e.g. boilers, furnaces, process heaters.
- 543 OPTIMIZATION METHODS IN MECHANICAL ENGINEERING** *3 credits*
 Prerequisite: 360 or permission. Development and method of solution of optimization problems in mechanical engineering. The use of dynamic programming and operational research methods for optimization including computer utilization and applications.
- 544 ROBOT DESIGN, CONTROL AND APPLICATION** *3 credits*
 Prerequisites: 321 or permission and 441 or permission. Robot design and control. Kinematic transformations, velocities and accelerations, path trajectories and dynamics, control and sensing in robotics. The automated factory with robot applications.
- 550 INTRODUCTION TO COMPUTATIONAL FLUID FLOW AND CONVECTION** *3 credits*
 Prerequisites: 315 or permission and 360 or permission. Numerical modeling of fluid/thermal systems, numerical solution of the momentum and thermal boundary layer equations; flow simulation using advanced heat transfer/fluid/graphics packages.
- 562 PRESSURE VESSEL DESIGN** *3 credits*
 Prerequisite: 336 or permission. Introduction to modern pressure vessel technology. Topics include basic structural considerations, materials and their environment and design-construction features.
- 563 COMPUTER AIDED DESIGN AND MANUFACTURING** *3 credits*
 Prerequisites: 360 or permission, 165 or permission. The use of computer systems to assist in the creation, modification, analysis, or optimization of engineering designs, and to plan, manage, and control manufacturing plants.
- 600 POTENTIALS** *3 credits*
 Prerequisite: 311/511. Derivation of equations for multi-dimensional irrotational flow of a com-

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- 653 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE** *3 credits*
Prerequisites: 4200:321, 322 or 4600:310, 315 or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices, Design optimization. Analysis of human thermal system.
- 655 REHABILITATION ENGINEERING** *3 credits*
Prerequisites: graduate standing in engineering, mathematics, or science; or permission of the instructor. Devices for rehabilitation, interfacing the motor and/or sensory impaired, quantitative assessment techniques, prosthetics and orthotics, bedsores mechanics, emerging technologies.
- 660 BIOMATERIALS AND LABORATORY** *4 credits*
Corequisite: Biomaterials Laboratory. Material uses in biological applications. Effect of physiological environment and sterilization on materials. Controlled and uncontrolled degradation. Effect of materials on soft tissue, hard tissue and blood. Laboratory experiments using materials designed for biomedical use and demonstrations of biological/materials interactions.
- 663 ARTIFICIAL ORGANS** *3 credits*
Prerequisites: graduate standing in the College of Engineering or permission of instructor.

- 742 STATISTICS IN EDUCATION** 3 credits
Statistical methods and techniques used in educational measurement and in educational research. Emphasis on hypothesis testing.
- 743 ADVANCED EDUCATIONAL STATISTICS** 3 credits
Prerequisite: 741. Emphasis on interpreting advanced statistics in education and the social sciences.
- 798 RESEARCH PROJECT IN SPECIAL AREAS** 1-3 credits
Prerequisite: permission of department chair and instructor. Critical and in-depth study of specific problem in educational foundations.
- 801 RESEARCH SEMINAR** 3 credits
Prerequisites: 640 and 741; permission of department chair and instructor. Intensive study of research methods applicable to education. Emphasis on developing a dissertation proposal.
- 897 INDEPENDENT STUDY** 1-4 credits
(May be repeated for a total of eight credits.) Prerequisites: permission of department chair and instructor. Specific area of inquiry within humanistic and behavioral foundations of education determined in advance by student and faculty advisor.

GENERAL ADMINISTRATION 5170:

- 591.3 WORKSHOP** 1-3 credits
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
- 601 PRINCIPLES OF EDUCATIONAL ADMINISTRATION** 3 credits
Prerequisite: 5100:640. A perspective of educational leadership and the context in which it operates, with emphasis on the processes, tasks, roles and relationships involved. Field based research required.
- 602 MANAGEMENT OF PHYSICAL RESOURCES** 3 credits
A comprehensive view of the principles, practices, and new dimensions involved in the planning and management of educational facilities.
- 603 MANAGEMENT OF HUMAN RESOURCES** 3 credits
An orientation to the major dimensions of the personnel function.
- 604 SCHOOL-COMMUNITY RELATIONS** 3 credits
Prerequisites: 601 and 5100:640. An analysis of the principles, practices, and materials that facilitate the interaction between the school's internal and external publics. Field based research required.
- 606 EVALUATION IN EDUCATIONAL ORGANIZATIONS** 3 credits
Prerequisites: 601 and 5100:640. An examination of the general concepts, models, practical applications and considerations involved in the evaluation of educational organizations.
- 607 SCHOOL LAW** 3 credits
Prerequisites: 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.
- 608 SCHOOL FINANCE AND ECONOMICS** 3 credits
A study of financial operations of school systems, including taxes, other sources of revenue, expenditures, budgeting and effects of economic factors.
- 609 PRINCIPLES OF CURRICULUM DEVELOPMENT** 3 credits
Prerequisites: 601 and 5100:640. This course is intended to help the student develop the performance competencies necessary to engage in curriculum decision making.
- 610 PRINCIPLES OF EDUCATIONAL SUPERVISION** 3 credits
Prerequisites: 601 and 5100:640. An introduction to the school function that improves instruction through direct assistance, curriculum, staff and group development and action research.
- 613 ADMINISTRATION OF PUPIL SERVICES** 3 credits
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.
- 620 THE PRINCIPALSHIP** 3 credits
An examination of leadership as it relates to the development and maintenance of a school climate and culture conducive to teaching and learning.
- 697 INDEPENDENT STUDY**

- 520 POSTSECONDARY INSTRUCTIONAL TECHNOLOGY** *3 credits*
Experiences in using, developing, and evaluating instructional technology and media used in postsecondary learning environments. Delivered in web-based format.
- 530 SYSTEMATIC CURRICULUM DESIGN FOR POSTSECONDARY INSTRUCTION** *3 credits*
Prerequisites: 501 and 5100:520 or permission of instructor. Development of postsecondary curriculum using sound instructional systems design principles and instructional technologies. Delivered in web-based format.
- 535 SYSTEMATIC INSTRUCTIONAL DESIGN IN POSTSECONDARY EDUCATION** *3 credits*
Prerequisites: 501, 530, 5100:520, admission to program, or permission of instructor. Best practices in instructional strategies appropriate for postsecondary instructors. Emphasis on instructional design and learner outcome assessments. Delivered in web-based format.
- 541 EDUCATIONAL GERONTOLOGY SEMINAR** *3 credits*
Designed for person practicing in field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of courses, seminars, occupational training programs and workshops for older people.
- 580 SPECIAL TOPICS: WORKFORCE EDUCATION/TRAINING** *1-3 credits*
(May be repeated for a maximum of 6 credit hours with a change in topic.) Prerequisite: permission of the instructor. Group study of special topics of critical, contemporary concern in workforce education/training.
- 590,1,2 WORKSHOP** *1-3 credits each*
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.
- 594 EDUCATIONAL INSTITUTES** *1-4 credits*
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.
- 600 SURVEY OF POSTSECONDARY INSTITUTIONS** *3 credits*
Prerequisite: 501 or permission of instructor. Introduces students to the nature, purpose, and philosophy of postsecondary institutions. Includes an examination of two-year colleges, technical schools, proprietary schools, and other higher education institutions offering courses at the postsecondary level. Delivered in web-based format.

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- 694 FIELD EXPERIENCE: CLASSROOM INSTRUCTION** *1-12 credits*
Prerequisites: approved student teaching application, pass PRAXIS II subject tests, approved portfolio and/or approval of the Student Teaching Committee; corequisite: 692. Planned teaching experience in schools selected and supervised by Office of Field Experience.
- 695 FIELD EXPERIENCE: MASTER'S** *1-6 credits*
Prerequisites: permission of advisor and department chair. Experience in an educational setting to apply educational theory and research to practice.
- 696 MASTER'S PROJECTS** *1-6 credits*
Prerequisites: permission of advisor and department chair. In-depth investigation of specific problem pertinent to student's area of concentration in education.
- 697 INDEPENDENT STUDY** *1-3 credits*
Prerequisites: permission of advisor and department chair. Selected areas of independent investigation as determined by advisor and related to student's academic needs.
- 699 MASTER'S THESIS** *4-6 credits*
Prerequisites: 5100:640 and permission of advisor and department chair. In-depth study of research problem in education. Student must be able to demonstrate necessary competencies to deal with research problem in education.
- 720 ASSESSMENT OF READING DIFFICULTIES** *3 credits*
Prerequisite: 625. Examines formal and informal assessments and intervention strategies for children with reading difficulties.
- 750 CURRENT RESEARCH AND THEORY IN SCIENCE EDUCATION** *3 credits*
Prerequisite: 650 or 651. Intensive examination of contemporary theory and research literature in science teaching and learning for preschool through senior high school students.
- 780 SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES** *1-3 credits*
(May be repeated.) Intensive examination of a particular area of curriculum and instruction.
- 800 PROFESSIONAL SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES** *3 credits*
Prerequisite: admission to either the Ph.D. 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 process and procedures will be addressed.
- 820 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION** *3 credits*
Prerequisite: 9 hours of graduate courses in reading or permission of instructor. Survey of research, comparison and evaluation of programs, design and development of projects in reading through group or individual study.
- 880 DOCTORAL SEMINAR IN CURRICULAR AND INSTRUCTIONAL STUDIES** *1-3 credits*
Prerequisite: admission to the Ph.D. program in either Elementary Education or Secondary Education. Intensive examination of a particular area of teacher education. (May be repeated with change of topic and for a total of 9 credits.)
- 895 DOCTORAL FIELD EXPERIENCE** *1-6 credits each*
(May be repeated for a total of 6 hours.) Prerequisites: permission of advisor and department chair. 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.
- 898 INDEPENDENT STUDY** *1-6 credits*
(May be repeated for a total of 6 hours.) Prerequisites: permission of advisor and department chair. Area of study determined by student's needs.
- 899 DOCTORAL DISSERTATION** *1-20 credits*
Prerequisites: permission of advisor and department chair. Study and in-depth analysis of a research problem in curriculum and instruction.

PHYSICAL EDUCATION 5550:

- 500 MUSCULOSKELETAL ANATOMY I: UPPER EXTREMITY** *3 credits*
Prerequisites: 3100:200, 201, 202, 203 and 5550:201. Designed to address the upper portions

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- 699 MASTER'S THESIS** 4-6 credits
An original composition demonstrating independent scholarship in a discipline related to outdoor education.

HEALTH EDUCATION 5570:

- 520 COMMUNITY HEALTH** 2 credits
Study of current public health problems. Organization and administration of various agencies and their roles in the solution of community health problems.
- 521 COMPREHENSIVE SCHOOL HEALTH** 4 credits
Prerequisite: admission to Graduate School. This course explains and presents comprehensive school health curricula for K-12. The three components of a comprehensive school health program are presented: instruction, services, and the environment.
- 523 METHODS AND MATERIALS OF HEALTH EDUCATION** 3 credits
Prerequisite: permission of instructor. Planning, organization, use of instructional resources and delivery of health education content and teaching processes (pre K-12).
- 560 PRACTICUM IN HEALTH EDUCATION** 2-6 credits
Prerequisite: permission of instructor. The practicum in Health Education is an on-site participation in a community health organization, agency, or resource.

EDUCATIONAL GUIDANCE AND COUNSELING 5600:

- 550 COUNSELING PROBLEMS RELATED TO LIFE-THREATENING ILLNESS AND DEATH** 3 credits
Prerequisite: permission. Consideration of the global issues, current research, coping behavior, support systems and family and individual needs in regard to life-threatening situations.
- 590 WORKSHOP** 1-3 credits
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.
- 600 SEMINAR IN COUNSELING** 1 credit
Prerequisite: counseling majors must elect 600 prior to electing 651 and/or within the first 10 credits of 5600 course work. Structured group experience designed to help a student assess selection of counseling as a profession.
- 610 COUNSELING SKILLS FOR TEACHERS** 3 credits
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.
- 620 ISSUES IN SEXUALITY FOR COUNSELORS** 3 credits
A seminar covering, in addition to changing current topics, sexuality across the lifespan, diversity and sexual orientation, and assessment.
- 621 COUNSELING YOUTH AT RISK** 3 credits
This course is designed to prepare counselors and other helping professionals to work with at-risk children and adolescents in school and community settings.
- 622 INTRODUCTION TO PLAY THERAPY** 3 credits
Prerequisites: enrolled in a master's or doctoral program in counseling or related field, or special nondegree students (i.e., professional counselor). This course is designed to give students an introduction to play therapy from a child-centered perspective. Students will develop competencies in child-centered play therapy.
- 623 MARRIAGE AND FAMILY COUNSELING/THERAPY ETHICS AND PROFESSIONAL IDENTITY** 3 credits
This course is designed to help students learn about marriage and family counseling/therapy as a distinct profession and about it corresponding ethical codes.
- 631 ELEMENTARY/SECONDARY SCHOOL COUNSELING** 3 credits
Introductory class; examines elementary and secondary school counseling practices.
- 635 COMMUNITY COUNSELING** 3 credits
Overview of community and college counseling services; their evaluation, philosophy, organization and administration.
- 640 COUNSELING ADOLESCENTS** 3 credits
Prerequisite: graduate student in counseling or related field. The examination of the physical, cognitive, emotional, and social developmental processes of the adolescent as these affect learning performance in a diverse population will be addressed.
- 643 COUNSELING THEORY AND PHILOSOPHY** 3 credits
Examination of major counseling systems including client-centered, behavioral and existential theories. Philosophical and theoretical dimension stressed.
- 645 TESTS AND APPRAISAL IN COUNSELING** 4 credits
Prerequisites: 5100:640. Study of the nature of tests and appraisal in counseling including reliability, validity, test construction and selection, administration, scoring, and basic interpretation of selected measures.
- 646 MULTICULTURAL COUNSELING** 3 credits
Prerequisites: 643 or permission of instructor. An examination of multicultural counseling theory and research necessary to work with culturally diverse people.
- 647 CAREER DEVELOPMENT AND COUNSELING ACROSS THE LIFE-SPAN** 3 credits
Overview of career development and choice over the life-span. Personal, family, and societal characteristics that affect choice, career choice, and implementation are discussed.
- 648 INDIVIDUAL AND FAMILY DEVELOPMENT ACROSS THE LIFESPAN** 3 credits
An exploration of individual and family development, human behavior, and theories of learning and personality. Emphasis will be placed on understanding the relationship between the individual and his/her family.
- 650 FILIAL THERAPY** 3 credits
Prerequisites: 590 or 622 and graduate student in counseling or related field. This course is designed to train students how to teach parents specific child-centered play therapy skills to use with their children.
- 651 TECHNIQUES OF COUNSELING** 3 credits
Prerequisite: 643 or permission. Study and practice of selected counseling techniques and skills with emphasis on structuring, listening, leading and establishing a counseling relationship.
- 653 GROUP COUNSELING** 4 credits
Prerequisites: 643 or 710, and 651. Knowledge and understanding of theory, research, and techniques necessary for conducting group counseling sessions. An experimental component is included.
- 655 MARRIAGE AND FAMILY THERAPY: THEORY AND TECHNIQUES** 3 credits
An overview of the theory and techniques of marital and family therapy, including exposure to the history, terminology and contributions of significant persons in the field.
- 657 CONSULTANT COUNSELING** 3 credits
Prerequisites: 631, 651 or permission. Examination of consultation models with focus on process and product.

- 659 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES** 3 credits
Prerequisite: 631 or 633 or permission. Development of a comprehensive articulated guidance and counseling program.

- 660 COUNSELING CHILDREN** 3 credits
Prerequisite: graduate student in counseling or related field. This course is designed as an entry-level course for counselors, school counselors, school psychologists, or other professionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of childhood disorders.

- 663 DEVELOPMENTAL GUIDANCE AND EMOTIONAL EDUCATION** 3 credits
An experimental seminar designed for school counselors/teachers to learn developmental guidance strategies for affective education, classroom guidance, deliberate psychological education and developmental counseling.

- 667 MARITAL THERAPY** 3 credits
Prerequisite: 655. In-depth study of theories and interventions which focus on the nature and quality of marital relationships.

- 669 SYSTEMS THEORY IN FAMILY THERAPY** 3 credits
Prerequisite: 655. In-depth exploration of systems theory in family therapy. Major assumptions of systems theory will be examined and the implications for interventions will be explored.

- 675 PRACTICUM IN COUNSELING I** 5 credits
Prerequisite: 620, 643, 645, 646, 651, 653, 720 (DSM-IV). Supervised counseling experience specific to program which individuals, groups, couples, or families.

- 685 INTERNSHIP** 3 credits
Prerequisite: 675. Must be repeated for a minimum of 6 credit hours over two semesters. May be repeated for a maximum of 12 credit hours. Paid or unpaid supervised clinical experience taken at least two consecutive semesters immediately following completion of 675. Credit/noncredit.

- 695 FIELD EXPERIENCE: MASTER'S** 1-10 credits
Prerequisites: permission of advisor and department chair. Placement in selected setting for purpose of acquiring experiences and/or demonstration skills related to student's counseling program.

- 697 INDEPENDENT STUDY** 1-3 credits
(May be repeated for a total of nine credits) Prerequisites: permission of advisor and department chair. Specific area of investigation determined in accordance with student needs.

- 702 ADVANCED COUNSELING PRACTICUM** 4 credits
(May be repeated for a total of 12 credits) Prerequisite: 675, 720, 710. Supervised counseling experience in selected settings.

- 707,8 SUPERVISION IN COUNSELING PSYCHOLOGY I, II** 4 credits each
Prerequisite: doctoral residency or permission. Instruction and experience in supervising graduate student in counseling.

- 709 INTRODUCTION TO COUNSELING PSYCHOLOGY** 2 credits
Prerequisite: graduate standing in the Collaborative Program in Counseling Psychology. Introduction to historical foundations of and recent developments in counseling psychology, with an emphasis on contemporary research literature in the field.

- 710 THEORIES OF COUNSELING AND PSYCHOTHERAPY** 4 credits
Prerequisite: 3750:630 or departmental permission. Major systems of individual psychotherapy explored within a philosophy of science framework. Freudian, behavioral, Rogerian, cognitive and other. Includes research, contemporary problems and ethics.

- 711 VOCATIONAL BEHAVIOR** 4 credits
Prerequisite: 3750:630 or departmental permission. Theories and research on vocational behavior and vocational counseling. Topics include major theories on vocational behavior, empirical research on these theories, applied work in vocational counseling and applied research.

- 712 PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING** 4 credits
Prerequisites: 630 or graduate standing in school psychology, and instructor's permission. History, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.

- 713 PROFESSIONAL, ETHICAL AND LEGAL ISSUES IN COUNSELING PSYCHOLOGY** 4 credits
Prerequisite: doctoral residency or permission. Examination of major issues in the field such as the counselor as a professional and as a person, and issues, problems and trends in counseling.

- 714 OBJECTIVE PERSONALITY EVALUATION** 4 credits
Prerequisites: completion of 3750:400/500, 3750:420/520, and 3750:750 or 5600:645 or permission. Study of the development, administration, and interpretation of objective instruments for personality assessment (MMPI, CPI, MBTI, 16 PF and selected additional inventories).

- 715 RESEARCH DESIGN IN COUNSELING I** 3 credits
Prerequisite: doctoral residency or permission. Study of research designs, evaluation procedures and review of current research.

- 716 RESEARCH DESIGN IN COUNSELING II** 3 credits
Prerequisite: doctoral residency or permission. This course is designed for doctoral students utilizing the qualitative approach for conducting research. Theory, methods, and design of qualitative inquiry are reviewed.

- 717 ISSUES OF DIVERSITY IN COUNSELING PSYCHOLOGY** 4 credits
Prerequisites: 3750:630; 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.

- 718 HISTORY AND SYSTEMS IN PSYCHOLOGY** 2 credits
Prerequisite: 3750:630. Philosophical and scientific antecedents of psychology and details of the development of systematic viewpoints in the 19th and 20th centuries.

- 720 TOPICAL SEMINAR: GUIDANCE AND COUNSELING** 1-4 credits
Prerequisite: permission of instructor. A topical study with a variety of disciplinary input. Staffing will be by department faculty and other professionals in counseling and related fields. A maximum of six credits may be applied to a degree.

- 722 INTRODUCTION TO PLAY THERAPY** 3 credits
Prerequisites: enrolled in a master's or doctoral program in counseling or related field, or special nondegree students (i.e., professional counselor). This course is designed to give students an introduction to play therapy from a child-centered perspective. Students will develop competencies in child-centered play therapy.

- 725 PROFESSIONAL AND LEGAL ISSUES IN COUNSELOR EDUCATION** 3 credits
Prerequisite: Admission into the Guidance and Counseling Doctoral Program. To be taken the first Fall term upon admission. Professional and ethical issues in the counseling field and doctoral identity development.

- 730 USE OF ASSESSMENT DATA** 4 credits
Prerequisite: doctoral level status. Study of the methods and materials used to assess individuals and the effective use of the data obtained leading to professional decisions regarding the diagnosis of individuals present condition, and recommendations for appropriate treatment/intervention.

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- 734 ADDICTION COUNSELING II: TREATMENT PLANNING AND INTERVENTION STRATEGIES** 3 credits
This course is designed to teach graduate-level students the process of treatment planning and range of treatment interventions used with addictive disorders.
- 755 ASSESSMENT METHODS AND TREATMENT ISSUES IN MARRIAGE AND FAMILY THERAPY** 3 credits
Provides advanced counseling students with the knowledge and skills in assessment methods, techniques and instruments relevant to the practice of marriage and family therapy.
- 756 OUTCOME RESEARCH IN MARRIAGE AND FAMILY THERAPY** 3 credits
Prerequisite: 667; 5100:640, 741. This course will provide an in-depth examination of marriage and family therapy outcome research.
- 760 COUNSELING CHILDREN** 3 credits
Prerequisite: graduate student in counseling or related field. This course is designed as an entry-level course for counselors, school counselors, school psychologists, or other professionals preparing to engage in therapeutic work with children. It is not a class in diagnosis of childhood disorders.
- 785 DOCTORAL INTERNSHIP** 3 credits
(May be repeated for a total of 9 credit hours.) Prerequisite: passing grades on written and oral comprehensive examinations. Supervised experience in clinical settings, teaching, and supervision. A minimum of 600 clock hours must be completed in a minimum of two consecutive semesters immediately following passing of comprehensive examinations. Credit/noncredit.
- 796 COUNSELING PSYCHOLOGY PRACTICUM** 4 credits
(May be repeated for a total of 12 credits) Advanced counseling psychology students will have supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications. Credit/noncredit.
- 797 INDEPENDENT READING AND/OR RESEARCH IN COUNSELING PSYCHOLOGY** 1.5 credits
(May be repeated) Prerequisite: permission of instructor. Independent readings and/or research in an area of counseling psychology under the direction of a faculty member.
- 895 FIELD EXPERIENCE: DOCTORAL** 1.6 credits
(May be repeated) Prerequisite: doctoral candidate status. Placement in selected setting for purpose of acquiring experiences and/or developing skills related to student's doctoral program.
- 897 INDEPENDENT STUDY** 1.3 credits
(May be repeated for a total of nine credits) Prerequisites: permission of advisor and department chair. Specific area of investigation determined in accordance with student needs.
- 899 DOCTORAL DISSERTATION** 1.20 credits
Prerequisites: permission of major doctoral advisor and department chair. Study, design and analysis of counseling problem.
- 561 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD MODERATE/INTENSIVE** 3 credits
Prerequisite: Admission to a College of Education Teacher Preparation Program, 440/540, 450/550, and 7400:265, or permission of the instructor. Developmental patterns of young children with moderate/intensive needs (ages 3-8) and developmentally appropriate practices in programming and adaptations.
- 563 ASSESSMENT IN SPECIAL EDUCATION** 3 credits
Prerequisite: 440/540. Prepares student to select, administer and interpret formal and informal assessment procedures and use resulting data in planning educational programs for exceptional individuals.
- 564 ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD SPECIAL EDUCATION** 3 credits
Prerequisites: 440/540 and 7400:265. 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
Prerequisites: 5050:210/211/320/330, 5610:440; and one of the following: 5610:441, 443, 445, 446. 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: 467/567. Advanced techniques for remediating problematic behavior, establishing effective repertoires and evaluating research relevant to classroom management will be covered. Behavioral theory will be stressed.
- 570 CLINICAL PRACTICUM IN SPECIAL EDUCATION** 3 credits
Prerequisite: permission of instructor; corequisite: 403 and 486, or 487. Provides a pre-student teaching experience for students in the areas of assessment, program planning, instructional planning and presentation, classroom management, adaptations, and collaboration with parents and other educational professionals.
- 579 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION** 1.2 credits
(May be repeated for a total of four credits) Topical study with a varied array of disciplinary input. Staffing will be invited members of allied and contributing professions active in management of exception children.
- 601 SEMINAR SPECIAL EDUCATION CURRICULUM PLANNING** 3 credits
Prerequisite: certification in an area of special education. Study of curriculum planning practices unique to special education classes and services. Appropriate curriculum objectives for selected areas of instruction as well as effective organizational programs examined.
- 602 SUPERVISION OF INSTRUCTION** 3 credits
Prerequisite: certification in an area of special education. Study of administration and supervisory practices unique to special education classes and services.
- 604 COLLABORATION AND CONSULTATION SKILLS FOR SPECIAL EDUCATORS** 3 credits
Prerequisite: admission to graduate program in special education or permission of the instructor. Advanced consideration of the roles and responsibilities of parents, professionals and individuals with disabilities in the development and implementation of educational interventions and related issues.
- 605 INCLUSION MODELS AND STRATEGIES** 3 credits
Prerequisite: admission to graduate program in special education. History, theory, philosophy, legislative mandates, models, strategies, curriculum modifications, methods/materials adaptations which support the inclusion of students with disabilities. Emphasis on collaboration and teaming.
- 606 RESEARCH APPLICATIONS IN SPECIAL EDUCATION** 3 credits
Prerequisites: admission to graduate program in special education and 5100:640. An examination of quantitative and qualitative research/methodology and its application to the field of special education. Applied research is an essential component of the course.
- 611 SEMINAR: LEGAL ISSUES IN SPECIAL EDUCATION** 3 credits
Prerequisites: admission to graduate program in special education and 5170:720 or permission of instructor. A culminating seminar for graduate students in special education designed to study, examine and reflect upon the legal aspects of historical and current trends, issues and practices.
- 612 SEMINAR: SOCIAL/ETHICAL ISSUES IN SPECIAL EDUCATION** 3 credits
Prerequisites: admission to graduate program in special education, 611, or permission of the instructor. A culminating seminar for graduate students in special education designed to study, examine and reflect upon the social and ethical aspects of historical and current trends, issues and practices.
- 691 STUDENT TEACHING SEMINAR** 1 credit
Prerequisites: 5500:245 and 5500:286 or permission of advisor. Taken concurrently with Student Teaching. Review and discussion of issues raised during teaching experience.
- 692 STUDENT TEACHING: SCHOOL AfscF6k3Te -2.5 -1.6667 Td(692)-9gaGY 6 0 1.2753 6 553.61511 333.500**
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- SPECIAL EDUCATION 5610:**
- 540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS** 3 credits
Prerequisite: admission to a 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 in across educational and community settings.
- 544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS** 3 credits
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of intellectually gifted individuals.
- 547 DEVELOPMENTAL CHARACTERISTICS OF INDIVIDUALS WITH MILD/MODERATE EDUCATIONAL NEEDS** 4 credits
Prerequisites: 7400:265 and 5610:440/540. Survey of the etiology, identification, classification, developmental characteristics of and intervention strategies for individuals with mild/moderate educational needs.
- 548 DEVELOPMENTAL CHARACTERISTICS OF INDIVIDUALS WITH MODERATE/INTENSIVE EDUCATIONAL NEEDS** 4 credits
Prerequisites: 7400:265 and 5610:540. Survey of the etiology, diagnoses, classification and developmental characteristics of individuals with moderate/intensive educational needs.
- 550 SPECIAL EDUCATION PROGRAMMING: EARLY CHILDHOOD** 3 credits
Prerequisites: admission to a College of Education Teacher Preparation Program, 440/540, 7400:265, or permission of instructor. Developmental patterns of young children with disabilities and developmentally/exceptionality appropriate practices with respect to programming and adaptations.
- 551 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE I** 3 credits
Prerequisites: admission to a Special Education Licensure Program, 450/550, 447/54; 5200:245, 345, 342; or permission of instructor. Educational implications regarding assessment, teaching strategies, adaptive materials, necessary to meet the needs of school age students with mild/moderate educational needs.
- 552 SPECIAL EDUCATION PROGRAMMING: SECONDARY/TRANSITION** 3 credits
Prerequisite: 447 or 448. Study of diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of secondary level students with exceptionalities.
- 553 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE I** 4 credits
Prerequisite: 448. Development of the programming strategies including assessment, inter/transdisciplinary models, family involvement, IFSP/IEP/IP development, instructional practices based upon legal/ethical principles for individuals with moderate/intensive educational needs.
- 554 SPECIAL EDUCATION PROGRAMMING: MODERATE/INTENSIVE II** 4 credits
Prerequisites: 448 and 453. 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.
- 557 SPECIAL EDUCATION PROGRAMMING: MILD/MODERATE II** 3 credits
Prerequisites: admission to a special education licensure program, 451/551; or permission of instructor. Special educational implications regarding assessment, teaching strategies, and adaptive materials necessary to meet the needs of school age students with mild/moderate educational needs.
- 559 COLLABORATION AND CONSULTATION IN SCHOOLS AND COMMUNITY** 3 credits
Prerequisites: 440/540 and 447/547, or 448/548, or permission of instructor. Provides professional educators/intervention specialists with skills in collaboration and consultation for working with parents of exceptional individuals and other professionals within school/community settings.
- 560 FAMILY DYNAMICS AND COMMUNICATION IN THE EDUCATIONAL PROCESS** 3 credits
Prerequisites: 440/540, or 447/547, or 448/548, or permission of instructor. A study of family theory and structure along with beginning techniques for working with families of students with exceptionalities, in educational and community settings.

- 602 BEHAVIORAL ASSESSMENT** *3 credits*
Prerequisite: permission of instructor. Overview of behavioral theory and its application focusing upon the role of the school psychologist as an agent of behavior change.
- 603 CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY** *3 credits*
Prerequisite: permission of instructor. A consideration of consultant roles in the practice of school psychology as related to consultant process and with school and agency personnel, parents and children.
- 610 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS** *4 credits*
Prerequisites: permission of instructor. Clinical study and application of current assessment approaches applicable in assessment of children's learning problems.
- 611 PRACTICUM IN SCHOOL PSYCHOLOGY** *4 credits*
Prerequisite: permission of instructor. Laboratory experience in psycho-educational study of individual children who have learning problems in school. (Repeat requirement).
- 630.1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/SPRING** *3 credits each*
Prerequisite: permission of instructor. Full-time paid work assignment under supervision of a qualified school psychologist for an academic year structured according to provisions of State Department of Education. Additional readings required.
- 640 FIELD SEMINAR I: CURRENT PROFESSIONAL TOPICS/ISSUES IN SCHOOL PSYCHOLOGY** *3 credits*
Prerequisite: permission of instructor. Consideration of pertinent topics/issues in practice of school psychology with emphasis upon field-based concerns of a practicing school psychologist.
- 641 FIELD SEMINAR II: LOW INCIDENCE/RELATED INQUIRIES** *3 credits*
Prerequisite: permission of instructor. Consideration of pertinent topics/issues in practice of school psychology with emphasis on field-based concerns of a practicing school psychologist.

Prerequisite: permission of advisor. Study, analysis and reporting of school psychology problem.

- 659 ASSURANCE SERVICES WITH DATA WAREHOUSING AND DATA MINING** 3 credits
Prerequisites: 601, 655, 658, and 6500:605. Application of data warehousing, data mining, and intelligent agent concepts and tools to designing and developing systems for assurance services, fraud and error detection, and risk mitigation.
- 660 INFORMATION SYSTEMS AUDIT AND CONTROL PROJECT** 3 credits
Prerequisites: 540, 655, and 659. Comprehensive, hands-on information systems audit and control project approved by the instructor.
- 670 CORPORATE PERFORMANCE EVALUATION AND CONTROL SYSTEMS** 3 credits
Prerequisite: 610. Investigation of the role of financial information systems in developing strategy, planning, measuring results, and motivating managers to define and pursue organizational goals and objectives.
- 680 INTERNATIONAL ACCOUNTING** 3 credits
Prerequisite: 610. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting problems.
- 693 SELECTED TOPICS IN TAXATION** 1-3 credits
(May be repeated for a total of six credits.) Prerequisites: completion of M.Tax foundation courses. Provides study in contemporary issues in taxation that are not covered in current courses.
- 695 GRADUATE INTERNSHIP IN ACCOUNTING** 3 credits
Prerequisites: 601, 621, 610, and 655. This course provides an opportunity for graduate accounting students to apply classroom instruction to practice problems in a professional working environment.
- 697 INDEPENDENT STUDY IN ACCOUNTING** 1-3 credits
(May be repeated for a total of six credits) Focus on special topics of study and research in accounting on an independent basis.

ENTREPRENEURSHIP 6300:

- 640 FINANCING THE ENTREPRENEURIAL VENTURE** 3 credits
Prerequisite: 6500:508. Exploration of financing, legal, taxation, and insurance issues involved with entrepreneurial ventures.
- 670 MANAGING ENTREPRENEURIAL GROWTH** 3 credits
Prerequisites: 6500:508 and 6300:640. Interdisciplinary capstone course focusing on problems and opportunities associated with the management of entrepreneurial growth in existing entrepreneurial ventures. Includes a field project.

FINANCE 6400:

- 538 INTERNATIONAL BANKING** 3 credits
Prerequisite: 371 or 602. Examination of recent trends in the expansion of international banking activities and associated revenue maximizing strategies.
- 602 MANAGERIAL FINANCE** 3 credits
Prerequisite: 6200:601 or equivalent. 6400:602 may be taken concurrently with 6200:601. Emphasis on financial decision making related to goal of firm; specifically, the investment decision, the financial decision and the dividend decision.
- 623 LEGAL ASPECTS OF BUSINESS TRANSACTIONS** 3 credits
(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**

605 MTECHNIQUE

- 656 MANAGEMENT OF INTERNATIONAL OPERATIONS** *3 credits*
Prerequisite: 600 or equivalent. Deals with institutional environment of international business; parameters of international business system which hold the system together and which individual business people cannot materially alter.
- 657 THE LEADERSHIP ROLE IN ORGANIZATIONS** *3 credits*
Prerequisite: 600. Analysis and development of leadership theory and thought. Identification of leaders in both formal and informal organizations. Training and development methods of leaders evaluated. Individual and small group field study assignments.
- 658 STRATEGIC HUMAN RESOURCES MANAGEMENT** *3 credits*
Prerequisites: 600 or equivalent and 654. The formulation, design and implementation of strategic human resource practices and systems for business organizations. Emphasis is on competitive cost advantages and productivity gains.
- 659 INTERNATIONAL HUMAN RESOURCE MANAGEMENT** *3 credits*
Prerequisite: 600. A survey course focused on the identification, analysis, and resolutions of human resource problems in business firms with global operations.
- 660 EMPLOYMENT REGULATION** *3 credits*
Prerequisite: 600 or equivalent. A broad overview of the federal legislation regulating the business firm's human resource management function.
- 661 COMPARATIVE SYSTEMS OF EMPLOYEE AND LABOR** *3 credits*
Prerequisite: 600. A survey course examining how industrial relations systems and employment practices across national boundaries impact upon the employment relationship of business firms with global operations.
- 662 APPLIED OPERATIONS RESEARCH** *3 credits*
Prerequisite: 601 or equivalent. Survey of basic techniques of operations research. Stresses application to functional area of business.
- 663 DATA ANALYSIS FOR MANAGERS** *3 credits*
Prerequisite: 601 or equivalent. Design, evaluation and interpretation of research in business

Fine & Applied Arts

ART

7100:

500 ART IN THE UNITED STATES BEFORE WORLD WAR II 3 credits
Prerequisite: 101 or permission of instructor. Consideration of development of art in the United States from earliest evidences to approximately World War II.

501 SPECIAL TOPICS IN HISTORY OF ART 1-3 credits
Prerequisite: 201 or permission. A lecture course focusing on a particular movement, period, artist, or medium. (May be repeated when a different subject or level of investigation is selected.)

502 MUSEOLOGY 3 credits
Lecture course dealing with museum science, including museum history, staff structures, art handling, storage and presentation, and exhibition preparation.

505 HISTORY OF ART SYMPOSIUM 1-3 credits
(May be repeated for credit when a different subject is indicated) Prerequisite: one art history course beyond 201 or permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem

510 METHODS OF TEACHING ELEMENTARY ART 3 credits
Prerequisite: admission to Teacher Education Program Art P-12. A lecture course presenting the necessary skills and knowledge to successfully implement, plan, instruct, and assess a diverse, art-based curriculum for the elementary school. No credit as elective courses for art majors.

511 METHODS OF TEACHING SECONDARY ART 3 credits
Prerequisite: admission to Teacher Education Program Art P-12. A lecture course providing the knowledge, skills, and experience necessary for the development of curriculum, instruction and assessment appropriate for application at the high school level. No credit as an elective for art majors.

512 STUDENT TEACHING COLLOQUIUM 1 credit
Prerequisites: senior status, successful completion of field experience, and permission. Corequisite: 5500:694. Lecture course providing the skills and knowledge necessary for art education licensure. Student will gain knowledge in resume building, licensure requirements, and practical pedagogical techniques.

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 will (udent wi5Hedit)TjI (ent wi5Ha09g5. T)r02or arTr0(st)-20(af)45(f str)25(uct)25(ures, art han-)JTJO.0278i(wledge in rsub)14T O 20Ai5w0.Oghn525(uo1.6667 Td[(51)95(1)-1017(90 T)40(W25(uORK

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- 584 ORIENTATION TO THE HOSPITAL SETTING** *2 credits*
Prerequisite: 265, comparable course or permission of instructor. Focuses on hospital as a major social institution; introduces procedures and functions of the hospital; roles played by various hospital personnel plus cursory knowledge of medical terminology, common childhood diseases, illnesses and injuries.
- 585 SEMINAR IN FAMILY AND CONSUMER SCIENCES** *1-3 credits*
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.
- 587 SPORTS NUTRITION** *3 credits*
Prerequisites: 133; 3100:207; 3150:130 or 203 or 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 principals of nutrition.
- 589 PROFESSIONAL PREPARATION FOR DIETETICS** *1 credit*
Prerequisite: open to those dietetics 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.
- 590 WORKSHOP IN FAMILY AND CONSUMER SCIENCES** *1-3 credits*
Prerequisite: at least junior standing. Investigation on current issue or topic in selected areas of family and consumer sciences. May be on off-campus study tour or an on-campus full-time group meeting.
- 591 CAREER-TECHNICAL FCS INSTRUCTIONAL STRATEGIES** *3 credits*
Prerequisite: senior standing or permission. Organization of Career-Technical Family and Consumer Sciences programs in public schools grades 4-12. Emphasis on strategies, compliance with state career-technical directives, student organizations, and program planning.
- 594 PRACTICUM IN PARENT AND FAMILY EDUCATION** *3 credits*
Prerequisites: 596, 605. Provides on-site opportunities to apply parent and family education skills. Includes a review of strategies, ethical considerations, and supervision by the on-site director.
- 596 PARENT EDUCATION** *3 credits*
Prerequisite: 265, comparable course, or permission. Practical application that reviews and analyzes various parenting techniques with major emphasis on the evaluation of parent education programs.
- 598 STUDENT TEACHING SEMINAR** *1 credit*
Corequisite: 5500:695. Seminar for students currently enrolled in Family and Consumer Sciences student teaching. Emphasis on block and lesson plan development, licensure, portfolio development, PRAXIS III, professional development, and student teaching reflections.
- 602 FAMILY IN LIFE-SPAN PERSPECTIVE** *3 credits*
Study of individual and family development across life span. Emphasis on adjustment patterns and interpersonal competence. Implications for education theory research and social policy.
- 603 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

- 625 CONCERT BAND** *1 credit*
 Membership by Audition. Performs the finest in concert band literature available for concert bands today.
- 626 MARCHING BAND** *1 credit*
 This organization is noted for its high energy performances a University football games. Enrollment is open to all members of the University student body.
- 627 BLUE AND GOLD BRASS** *1 credit*
 The official band for Akron home basketball games. Membership is by audition.
- 628 UNIVERSITY BAND** *1 credit*
 This ensemble is active during spring Semester Only. This concert band is open to all members of the University Community.
- 629 BLUE AND GOLD BRASS II** *1 credit*
 The official band for Akron home ladies basketball games. Membership is by audition.
- 628 UNIVERSITY BAND** *1 credit*
 This ensemble is active during spring Semester Only. This concert band is open to all members of the University Community.

APPLIED MUSIC 7520:

521-569 APPLIED MUSIC FOR MUSIC MAJORS *2 or 4 credits each*

- 624 SURVEY OF COMMUNICATION THEORY** *3 credits*
Study of dimensions of field of communication: information analysis, social interaction and semantic analysis.
- 625 THEORIES OF MASS COMMUNICATION** *3 credits*
A review of theories of mass media and studies exploring the effect of media.
- 628 CONTEMPORARY PUBLIC RELATIONS THEORY** *3 credits*
Study and practical application of communication concepts, theories and skills relevant to public relations programs in businesses and nonprofit organizations.
- 645 INTERCULTURAL COMMUNICATION THEORY** *3 credits*
Analysis of the impact on the communication process of cultural difference between communicators; examination of existing literature in intercultural communication.
- 670 COMMUNICATION CRITICISM** *3 credits*
Introduces the basic elements, approaches and types of critical discourse as it is relevant to communication and mass media studies.
- 680 GRADUATE COMMUNICATION INTERNSHIP** *1-6 credits*
(May be repeated for a total of six credits.) Prerequisites: must have attained the category of full admission and be in good standing in the School's graduate program; must receive permission and approval of internship placement and research proposal. Provides communication graduate students with opportunity to obtain experience and to apply knowledge of academic concepts in a supervised work setting in the communication field.
- 691 ADVANCED COMMUNICATION STUDIES** *3 credits*
(May be repeated for a total of six credits.) Special topics in communication in areas of particular faculty expertise. Consult department for particular topic each semester.
- 697 GRADUATE RESEARCH IN COMMUNICATION** *1-6 credits*
(May be repeated for a total of six credits.) Prerequisites: 7800.600 and approval of project prospectus one term prior to undertaking the project. Performance of research on problems found in mass media-communication.
- 698 MASTER'S PROJECT/PRODUCTION** *1-6 credits*
(May be repeated for a total of six credits.) Prerequisite: Permission of the school director.
- 699 MASTER'S THESIS** *1-6 credits*
(May be repeated for a total of six credits.) Prerequisite: Permission of the school director.

SPEECH-LA NGUA GE PATHOLOGYSPEECH-LA NGUA GE PATHOEIUUxeSBT.

- 710 INDUSTRIAL AND COMMUNITY NOISE** 3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Theoretical principles of noise measurement; etiology of noise-induced hearing loss and acoustic trauma; industrial hearing conservation program, Occupational Health and Safety Act; community and recreational noise evaluation and management.
- 711 SPEECH-LANGUAGE PATHOLOGY FOR THE AUDIOLOGIST** 4 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 testing.
- 712 DIAGNOSIS OF AUDITORY DISORDERS** 3 credits
Prerequisite: 709. Underlying theory and principles of administration and interpretation of site-of-lesion tests.
- 713 HEARING AID TECHNOLOGY** 4 credits
Prerequisite: 701. Study of amplification systems for the hearing impaired.
- 714 GERONTOLOGICAL ISSUES IN AUDIOLOGY** 3 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Physiological, psychological, and sociological theories of aging with a focus on the etiology, symptomatology, assessment, and rehabilitation of older adults with hearing impairments.
- 715 CENTRAL AUDITORY PROCESSING: EVALUATION AND MEASUREMENT** 3 credits
Prerequisites: 705 and 706. Study of audiologic evaluation and habilitation/rehabilitation procedures for people having central auditory disabilities.
- 716 ADULT HEARING AID FITTING AND SELECTION** 3 credits
Prerequisite: 713. Examination of the theory and practice of fitting hearing aids. Emphasis on special clinical procedures, research needs, and evolving technology in hearing instruments (includes 1 credit hour lab).
- 717 PEDIATRIC AUDIOLOGY** 3 credits
Prerequisite: 709. Study of audiologic diagnostic and auditory habilitative 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 (re)habilitation.
- 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 disordered patient (includes 1 credit hour lab).
- 722 AUDIOLOGIC MANAGEMENT OF THE SCHOOL-AGED CHILD** 3 credits
Prerequisite: 717. Focus on educational audiology. Features delivery of audiologic services designed to access the school environment for children ages 4-21.
- 723 AUDIOLOGIC REHABILITATION OF ADULTS** 4 credits
Prerequisite: 716. Study of current methodologies employed in the audiologic 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 deafness/hearing impairment and the profession of audiology.
- 725 MEDICAL MANAGEMENT OF AUDITORY DISORDERS** 2 credits
Prerequisite: 712. 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, ECoHG, ENOG, ALR, P300, VER, and SSER.
- 727 CULTURAL ISSUES IN DEAFNESS** 2 credits
Prerequisite: admission to the Au.D. program or permission of instructor. An introduction to Deaf Culture and the audiologist's roles and responsibilities in planning treatment with members of the deaf community.
- 728 SEMINAR IN AUDIOLOGY** 2 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Selected current topics in audiology with emphasis on review of current literature.
- 730 PRACTICE MANAGEMENT IN AUDIOLOGY** 4 credits
Prerequisite: admission to the Au.D. program or permission of instructor. Study of issues which impact the management of audiological practices, including establishing a private practice, reimbursement, marketing, record keeping and professional liability.
- 731 SEMINAR: CLINICAL EXTERN** 1 credit
Corequisite: 750 or 751 or permission of instructor. In depth consideration of topics/issues in the practice of audiology with emphasis upon issues related to clinical rotation issues.
- 741 DIRECTED OBSERVATION IN AUDIOLOGY I** 1 credit
Prerequisite: admission to the Au.D. program or permission of instructor. Introduction to clinical practicum in Audiology. Directed observation of clinical practice including audiologic diagnosis and audiologic rehabilitation are required.
- 743 CLERKSHIP I** 1 credit
Corequisite: 709. Clinical practicum in audiology during which students perform discrete tasks under supervision.
- 744 CLERKSHIP II** 1 credit
Prerequisite: 743. Supervised clinical practicum in audiology during which students will perform discrete clinical tasks while under supervision.
- 745 INTERNSHIP IN AUDIOLOGY I** 2 credits
Prerequisite: 744. Supervised practicum in audiology requiring the independent performance of basic audiologic procedures, including hearing aid management.
- 746 INTERNSHIP IN AUDIOLOGY II** 2 credits
Prerequisites: 745 and permission. Supervised clinical practicum in audiology requiring the independent performance of diagnostic audiology, hearing aids, and audiologic rehabilitation procedures.
- 747 GRADUATE AUDIOLOGIST I** 3 credits
Prerequisite: 746. Supervised clinical practicum in audiology which encompasses audiologic assessments and audiologic rehabilitation.

- 748 GRADUATE AUDIOLOGIST II** 3 credits
Prerequisites: 747 and permission. Supervised clinical practicum in audiology requiring the independent performance of audiologic assessment procedures, audiologic rehabilitation, and vestibular assessment and rehabilitation.
- 749 GRADUATE AUDIOLOGIST III** 3 credits
Prerequisites: 747 and permission. Supervised clinical practicum in audiology which encompasses the entire range of audiologic procedures including neurophysiological based procedures.
- 750 CLINICAL EXTERNSHIP IN AUDIOLOGY I** 14 credits
Prerequisite: 749 and permission and successful completion of the PRAXIS Examination. Corequisite: 731. Full-time clinical practicum in audiology at an off-campus site.
- 751 CLINICAL EXTERNSHIP IN AUDIOLOGY II** 14 credits
Prerequisites: 750 and permission. Corequisite: 731. Full-time clinical practicum in audiology at an off-campus site.

SOCIAL WORK

7750:

- 502 ((SOCIAL WORK PRACTICE I))** 3 credits
Prerequisite: 276 or permission of instructor. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families.
- 502 SOCIAL WORK PRACTICE II** 3 credits
Prerequisite: 401 or permission of instructor. Concepts and methods of social work practice particularly relating to understanding and working with groups in various settings in our society.
- 503 SOCIAL WORK PRACTICE III** 3 credits
Prerequisite: 401 or permission of instructor. Development of understanding and practice methods for utilization of community organization and social planning as social work process in assessing problems and developing programs to meet needs.
- 504 SOCIAL WORK PRACTICE IV** 3 credits
Prerequisite: 401 or permission of instructor. Professional social work practice with families in social services; the dynamics of family systems, assessment of family function and dysfunction, professional helping processes.
- 510 MINORITY ISSUES IN SOCIAL WORK PRACTICE** 3 credits
Prerequisite: 276 or permission of instructor; must be taken prior to or concurrently with 401 and one of the other practice courses (402, 403, 404). Racial, ethnic and cultural issues in social work related to various practice and theoretical perspectives, to various types of social problems, service agencies, individual family, group, community and societal contexts integrated with the methodological processes of the social work practitioners.
- 511 WOMEN'S ISSUES IN SOCIAL WORK PRACTICE** 3 credits
Prerequisite: 276 or permission of instructor. Social work practice, knowledge and skill, social welfare institutions and social policy in relation to women's issues and concerns in the United States.
- 525 SOCIAL WORK ETHICS** 3 credits
Prerequisite: 276 or permission of instructor. Social Worker's code of ethics as applied to practices, problems and issues in social work.826 0 0 6 327 435.75058 Tm(P)20(rerequisite: 27)75(6 or permission

- 559 SOCIAL WORK WITH THE MENTALLY RETARDED** 3 credits
Prerequisite: 276 or permission of instructor. Application of social work principles in the provision of social services to meet the need of the mentally retarded and developmentally disabled and their families.
- 565 ADMINISTRATION AND SUPERVISION IN SOCIAL WORK** 3 credits
Prerequisite: 401 or permission of instructor. Preparation for use of supervision, staff development and program planning in a social work agency. Examines the social work/welfare agency in its community as it affects its organizational goal-setting and program-implementation problems.
- 570 LAW FOR SOCIAL WORKERS** 3 credits
Prerequisite: 276 or permission of instructor. Basic terminology, theories, principles, organization, and procedures of law will be explored along with the relationships between social work and law and comparisons of the theoretical bases of the two professions.
- 575 SUBSTANCE ABUSE AND SOCIAL WORK PRACTICE** 3 credits
Prerequisite: 276 or permission of instructor. Provides students with the essential knowledge and skill for successful social work practice with people involved in substance abuse.
- 580 SPECIAL TOPICS IN SOCIAL WORK AND SOCIAL WELFARE** 1-3 credits
Prerequisite: permission of instructor. Analysis of current social work and social welfare theory and policy, settings, innovative interventions and trends in delivery systems in relation to selected areas of concern. Topics and credits variable.
- 597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK SOCIAL WELFARE** 1-3 credits
Prerequisites: permission and prearrangement with instructor. Individual readings, research or projects in area of interest in social welfare theory or institutional operations or in social work practice under guidance of social work faculty member. Preparation of report paper appropriate to nature of topic. For social work major.
- 601 FOUNDATION FIELD PRACTICUM** 3 credits
Prerequisites: first of two field practicum courses to be taken in the first year of the MSW program. A two-semester, 400 clock hour, supervised internship at a social service agency. Credit/noncredit. (Offered only Fall Semester.)
- 602 FOUNDATION FIELD PRACTICUM** 3 credits
Prerequisites: second of two field practicum courses to be taken in the first year of the MSW program. A two-semester, 400 clock hour, supervised internship at a social service agency. Credit/noncredit. (Offered only Spring Semester.)
- 603 ADVANCED FIELD PRACTICUM** 3 credits
Prerequisites: first of two field practicum courses to be taken in the second year of the MSW program. A two-semester, 500 clock hour, supervised internship in a social service agency, based on the student's concentration and specialization. Credit/noncredit. (Offered only Fall Semester.)
- 604 ADVANCED FIELD PRACTICUM** 3 credits
Prerequisites: second of two field practicum courses to be taken in the second year of the MSW program. A two-semester, 500 clock hour, supervised internship in a social service agency, based on the student's concentration and specialization. Credit/noncredit. (Offered only Spring Semester.)
- 605 SOCIAL WORK PRACTICE WITH LARGE SYSTEMS** 3 credits
Prerequisite: 604 or permission of instructor. Provides the basic knowledge, skills, and strategies of social work practice with task groups, organizations and communities.
- 607 ADVANCED PRACTICE WITH SMALL SYSTEMS I** 3 credits
Prerequisite: second level graduate student or permission of instructor. This course focuses on the differential assessment of individuals, families and small groups and the application of a range of theory bases.
- 608 ADVANCED PRACTICE WITH SMALL SYSTEMS II** 3 credits
Prerequisite: 704 or permission of instructor. As a continuation of Advanced Practice I, this course focuses on the development and implementation of intervention strategies with and on behalf of small systems.
- 609 SOCIAL WORK PRACTICE WITH SMALL SYSTEMS** 3 credits
Prerequisite: graduate status or permission of instructor. Provides the basic knowledge, skills, professional ethics and values necessary for beginning social work practice with small client systems.
- 611 DYNAMICS OF RACISM AND DISCRIMINATION** 3 credits
Prerequisite: graduate status or permission of instructor. Provides knowledge of analyzing and understanding the factors leading to and sustaining racism, sexism, homophobia, and the like, at micro and macro levels.
- 622 FUNDAMENTALS OF RESEARCH I** 3 credits
Prerequisite: graduate status or permission of instructor. This course provides an Introduction to the logic of scientific inquiry, the research process, and the relationship between research and social work practice.
- 623 FUNDAMENTALS OF RESEARCH II** 3 credits
Prerequisite: 622: statistics course; or permission of instructor. Provides students with an understanding of quantitative and qualitative methodologies and the use of descriptive and inferential statistics in analyzing research data.
- 631 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT: SMALL SOCIAL SYSTEMS** 3 credits
Prerequisite: graduate status or permission of instructor. This course focuses on understanding the human behavior and life cycle development of people as individuals and as members of families and other small groups.
- 632 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT: LARGE SYSTEMS** 3 credits
Prerequisites: 631 or permission of instructor. This course focuses on the human behavior of people as members of larger social systems including formal and informal organizations, communities and institutions.
- 646 SOCIAL WELFARE POLICY I** 3 credits
Prerequisite: graduate status or permission of instructor. Examines the historical, philosophical and value bases of social welfare as well as the relationship between social work practice, policy and service delivery.
- 647 SOCIAL WELFARE POLICY II** 3 credits
Prerequisite: 646 or permission of instructor. This course prepares students with the beginning skills to engage in social problem/policy analysis.
- 650 ADVANCED STANDING INTEGRATIVE SEMINAR** 6 credits
Prerequisite: advanced standing. Provides an integrative view of social work practice with an emphasis on values, foundation knowledge and skills, and evaluation of professional interventions.
- 656 SOCIAL WORK PRACTICE WITH GAYS AND LESBIANS** 3 credits
Prerequisite: second level graduate status or permission of instructor. This course examines gay and lesbian culture and lifestyles, discrimination based on sexual orientation, and intervention strategies appropriate to practice with gays and lesbians.
- 663 PSYCHOPATHOLOGY AND SOCIAL WORK** 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination of the symptoms, theories, and psychosocial aspects of mental illness, and the role of the social worker in the treatment of mental disorders.
- 664 DIRECT PRACTICE RESEARCH** 3 credits
Prerequisite: second level graduate student or permission of instructor. Provides students with advanced knowledge about the methodology of single system design and skills to implement an evaluation study of their intervention with clients.
- 665 SUPERVISION AND STAFF DEVELOPMENT** 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination of the purpose, functions, and theories of supervision; the impact of cultural, ethnic and racial differences in supervision/staff development; and problems encountered.
- 671 SOCIAL WORK ADMINISTRATION** 3 credits
Prerequisite: second level graduate student or permission of instructor. This course focuses on supervisory and managerial roles and functions as they are carried out at different hierarchical levels in human service organizations.
- 672 STRATEGIES OF COMMUNITY ORGANIZATION** 3 credits
Prerequisite: second level graduate student or permission of instructor. Emphasizes the historical development and application of several community strategies used to identify community problems, and how to organize and empower diverse community groups.
- 673 COMMUNITY ORGANIZATION AND PLANNING** 3 credits
Prerequisite: must have completed first year of master's program. Required for all second year students concentrating on Macro Practice sequence. Prepares students to work in communities and in public and private agencies.
- 674 COMMUNITY, ECONOMIC SYSTEMS AND SOCIAL POLICY ANALYSIS** 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides a base for understanding economic systems and analyzing the political framework at federal, state, and local levels and their impact on communities.
- 675 PROGRAM EVALUATION** 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides students with methods of evaluating programs in agencies, including approaches, measurement, design, data collection and analyses employed in program outcome research.
- 676 FISCAL MANAGEMENT OF SOCIAL AGENCIES** 3 credits
Prerequisite: second level graduate student or permission of instructor. This elective course concentrates on the financial management of social administration, financial planning and management, principles of economic and fiscal exchange, accountability and fiscal accounting.
- 680 AGING AND SOCIAL WORK PRACTICE** 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination and evaluation of aging programs and policies, demographic trends and the changing role of social work service providers.
- 681 AGING: POLICIES AND PROGRAMS** 3 credits
Prerequisite: second level graduate student or permission of instructor. An examination and evaluation of aging programs and policies, demographic trends and the changing role of social work service providers.
- 685 SOCIAL WORK PRACTICE: FAMILY AND CHILDREN** 3 credits
Prerequisite: second level graduate student or permission of instructor. Examines the major problems encountered by children and families in the life cycle and explores intervention strategies and programs to address their needs and strengths.
- 686 SOCIAL WELFARE POLICY AND SERVICES: FAMILY AND CHILDREN** 3 credits
Prerequisite: second level graduate student or permission of instructor. Examines the federal and state laws, policies, and services governing children and families, including the supportive, supplemental and substitutive aspects of services.
- 690 ADVANCED PRACTICE AND POLICY IN SUBSTANCE ABUSE** 3 credits
Prerequisite: second level graduate student or permission of instructor. This course provides students the knowledge and skill base necessary for managing and practice with people involved in substance abuse, evaluating programs, and preventive work.
- 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 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 method to social work practice, such as treatment groups, making administrative decisions, in planning and evaluation, and doing preventive work.

THEATRE

7800:

- 567 CONTEMPORARY THEATRE STYLES** 3 credits
A detailed examination of representative plays of the contemporary theatre.
- 570 THEATRE IN EDUCATION** 3 credits
An in-depth experience with current theories, methods, and materials in P-12 theatre education and process drama techniques. Field experience provided when possible.
- 575 ACTING FOR THE MUSICAL THEATRE** 3 credits
Prerequisite: permission. A scene study course in analyzing and performing roles in American musicals. Accompanist provided.
- 600 RESEARCH AND WRITING TECHNIQUES** 3 credits
Exploration of the basic research tools and methods appropriate to the discipline, including utilization of the computer. Guidelines for writing thesis.
- 603 SPECIAL TOPICS IN THEATRE ARTS** 1-4 credits
(May be repeated as different subject areas are covered, but no more than 12 credits may be applied toward M. A. degree) Traditional and experimental courses in theatre, supplementing those listed in the *General Bulletin*.
- 605 COLLOQUIUM ON THE ARTS** 3 credits
A brief exploration of the major visual and performing art forms and organizations examined in relationship to the business management of arts. Team-taught.
- 641 PROBLEMS IN DIRECTING** 3 credits
Advanced directing course with special emphasis on staging of complex plays from all periods of dramatic literature.
- 645 SEMINAR IN DRAMATIC LITERATURE** 3 credits
Representative Western stage play (non-American) are examined in theatrical, historical, and critical/theoretical contexts.
- 646 GRADUATE ACTING: TECHNIQUES** 3 credits
Advanced study of basic acting techniques, especially Stanislavski, through analysis and performance. Voice/Movement Lab required.
- 648 GRADUATE ACTING: PROBLEMS** 3 credits
Study of problems confronting the advanced actor in various modern styles of performance Voice/Movement Lab required.
- 658 HISTORY OF THEATRE** 3 credits
Theatre history from the Greeks to the present with emphasis on physical theatre, conventions, and theatre architecture of each period.

- 659 HISTORY AND THEORY OF STAGE LIGHTING** *3 credits*
 Historical survey of evolution of stage lighting culminating in understanding of modern lighting design skills and their practical application. Term paper or major project required.
- 660 ADVANCED TECHNICAL THEATRE** *3 credits*
 Processes including multiple set productions, revolves and their rigging, techniques in simple hydraulics, pneumatics and load capacities, and properties and techniques in multi-media.
- 662 SEMINAR IN SCENE DESIGN** *3 credits*
 Prerequisite: 106 or undergraduate scene design course or permission of instructor. Study of problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces, and new scenographic materials.
- 665 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.
- 666 PRINCIPLES OF ARTS ADMINISTRATION** *3 credits*
 Principles and practices in non-profit arts management, including organizational structure, function of boards, personnel and volunteer management, and public policy for the arts.
- 682 FUND RAISING AND GRANTSMANSHIP IN THE ARTS** *3 credits*
 Techniques and execution of a development campaign for individuals, corporations, foundations, federal and state grants, and endowment, including research and proposal writing.
- 690 GRADUATE RESEARCH/READINGS** *1-3 credits*
 (May be repeated for a total of nine credits) Prerequisite: permission. Individual research or independent readings under supervision of member of theatre graduate faculty.
- 691 ARTS ADMINISTRATION PRACTICES AND POLICIES** *3 credits*
 Financial management of the arts, facilities management, presenting performances, touring, and unique management problems in non-profit theatre companies, dance companies, orchestras, and museums.
- 692 LEGAL ASPECTS OF ARTS ADMINISTRATORS** *3 credits*
 Legal responsibilities and liabilities of an arts organization, contracts, copyright law, insurance, taxation, artists' rights, personnel law, and labor law.
- 698 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.
- 699 MASTER'S THESIS** *6 credits*
 Prerequisite: permission of graduate coordinator of theatre arts program. Research related to the completion of the master's thesis.

THEATRE ORGANIZATIONS 7810:

- 601 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY** *1-2 credits*
 (May be repeated for a total of four credits) Prerequisite: permission of instructor. Practice in selected production design/technology operations, applications and techniques as they apply to production projects and major departmental productions.
- 605 PERFORMANCE PRACTICUM** *1-2 credits*
 (May be repeated for a total of 12 credits) Prerequisite: permission of instructor. Production of work undertaken by the student when performing a role in a theatre production. Credit assigned and work supervised by faculty project supervisor.

DANCE PERFORMANCE 7920:

- 590 WORKSHOP IN DANCE** *1-3 credits*
 Prerequisite: Advanced standing or permission. (May be repeated for a total of eight credits. Group study/projects investigating a particular field of dance not covered by other courses.

Nursing

NURSING 8200:

- 509 INTERNATIONAL HEALTH** *3 credits*
 Prerequisite: Baccalaureate degree in nursing or permission of instructor.

- 815 THEORY CONSTRUCTION AND DEVELOPMENT IN NURSING** *3 credits*
Prerequisites: Admission to the Ph.D. Program and 810. Examines strategies for theory development including logical-empirical-deductive and inductive approaches. Emphasis will be on elements and strategies used in theory building. (KSU 70715)
- 820 INTRODUCTION TO NURSING KNOWLEDGE DOMAINS** *3 credits*
Prerequisite: Admission to the Ph.D. Program or permission of the professor. Introductory seminar analyzing selected theoretical and methodological approaches to knowledge development in nursing. Emphasis on critical analysis of knowledge in areas of special interest. (KSU 70720)
- 825 QUANTITATIVE RESEARCH METHODS** *3 credits*
Prerequisite: Admission to the Ph.D. Program or permission of the professor. An integrated approach to study of quantitative nursing research. Exploration of the interdependent relationship of methodology, design/measurement issues, including analysis and interpretation of findings. (KSU 70725)
- 827 ADVANCED HEALTH CARE STATISTICS I** *3 credits*
Prerequisite: Admission to the Ph.D. Program or permission of the professor; pre- or corequisite: 825. In-depth examination of descriptive statistics, correlation, regression, multiple regression sets, scaling, nonlinear transformation, missing data, and interactive effects; including initial manipulation of data, integrating understanding of inference and probability.
- 830 QUALITATIVE RESEARCH METHODS** *3 credits*
Prerequisite: Admission to the Ph.D. Program or permission from the instructor. Selected qualitative research methods used to study nursing phenomena. Philosophical bases; design, data collection and analysis; evaluation of rigor; and ethical issues for major qualitative methods will be analyzed with regard to nursing phenomena. (KSU 70730)
- 835 NURSING AND HEALTH CARE POLICY** *3 credits*
Prerequisite: Admission to the Ph.D. Program or permission of the professor. Critical examination of theories and processes of formulating state/national health care policy. Focus on health issues, the political and legislative process, and contemporary policy dilemmas. (KSU 70735)
- 837 ADVANCED HEALTH CARE STATISTICS II** *3 credits*
Prerequisite: 827 and admission to the Ph.D. Program or permission of instructor. This course synthesizes and applied knowledge of advanced multivariate and statistical techniques commonly used in health care and nursing research.
- 840 NURSING SCIENCE SEMINAR I** *3 credits*
Prerequisite: 820. Seminar on in-depth analysis, synthesis, and evaluation of one substantive area within nursing and related disciplines focusing on the generation and dissemination of nursing knowledge. (KSU 86091, 86191, 86291, 86391)
- 846 AMNR: MEASUREMENT IN NURSING RESEARCH** *3 credits*
Prerequisite: Admission to Ph.D. program or permission of instructor. Theories and concepts related to measurement and nursing research including techniques for construction, testing, and refining of instruments with assessment of reliability and validity.
- 847 AMNR: APPLICATION OF QUALITATIVE METHODS** *3 credits*
Prerequisite: 830. Achieve an in-depth understanding of one qualitative research approach (chosen by student according to his/her research plans), including associated philosophical foundations, key concepts, typical methods, and evaluative criteria.
- 848 AMNR: PROGRAM EVALUATION IN NURSING** *3 credits*
Prerequisite: Admission to Ph.D. program or permission of instructor. Seminar and lecture; analysis of theories and models of program evaluation and their relationships to designs, processes, techniques, and outcomes in nursing-related evaluations.
- 849 AMNR: GRANT DEVELOPMENT AND FUNDING** *3 credits*
Prerequisite: Admission to Ph.D. program or permission of instructor. Advanced seminar on critical analysis of proposal and grant development, funding, peer review, and advocacy process with emphasis on the development of a grant proposal.
- 850 NURSING SCIENCE SEMINAR II** *3 credits*
Prerequisite: 840. In-depth focused analysis and synthesis of a substantive area relevant to the student's specific research focus, culminating in a written product for dissemination. (KSU 87091)
- 883 EVALUATION IN NURSING EDUCATION** *3 credits*
Application of evaluation and measurement principles to nursing education. Emphasis on evaluation as both process and outcome. Includes evaluation of program, curriculum, course, and learner.
- 884 PRACTICUM: ACADEMIC ROLE OF THE NURSE EDUCATOR** *3 credits*
Prerequisites: 881, 882, 883. Precepted study and practice in classroom and clinical teaching. Presentation of a researchable topic. Course may be waived based on submission of an approved portfolio.
- 892 FIELD EXPERIENCE IN NURSING** *1-12 credits*
Prerequisite: Admission to the Ph.D. program or permission of instructor. Individual enrollment in field experience, practicum, or internship settings related to nursing.
- 895 SPECIAL TOPICS IN NURSING** *1-6 credits*
Prerequisite: Admission to the Ph.D. program or permission of instructor. Study of important topics in nursing practice, research, or the profession. Offering in response to existing interests and opportunities. Topics will be announced when scheduled.
- 896 INDIVIDUAL INVESTIGATION IN NURSING** *1-3 credits*
Prerequisite: Admission to the Ph.D. program or permission of instructor. Individual enrollment for independent study in nursing carried out by student under supervision of a doctoral faculty council member.
- 898 RESEARCH IN NURSING** *1-15 credits*
Prerequisite: Admission to the Ph.D. program or permission of instructor. Research carried out by a student under faculty supervision. In-depth inquiry should result in a paper or appropriate product.
- 899 DOCTORAL DISSERTATION** *1-15 credits*
Prerequisite: Advancement to candidacy. (May be repeated) Independent dissertation research under the guidance of a faculty chairperson and a dissertation committee. (KSU 80199)
- 604 BIOSTATISTICS IN PUBLIC HEALTH** *3 credits*
Prerequisite: Admission to the MPH program. Biostatistics basics, statistical inference, central tendency tests, analysis of variance, regression analysis, survival analysis, and applications in public health. Epi Info and JMP statistical packages.
- 605 HEALTH SERVICES ADMINISTRATION IN PUBLIC HEALTH** *3 credits*
Prerequisite: Admission to the MPH program. Management principles, planning and evaluation, grant-writing, economics, policy, data sources, and applications to public health.
- 606 ENVIRONMENTAL HEALTH SCIENCES IN PUBLIC HEALTH** *3 credits*
Prerequisite: Admission to the MPH program. Air/water quality, food hygiene, sanitation, solid waste management, hazardous materials management, vector-borne disease, occupational health, legal issues, environmental hazard identification and response.
- 610 GRANT WRITING IN PUBLIC HEALTH PRACTICE** *3 credits*
Prerequisite: admission to the MPH Program. Elective course for MPH students with minimum grant writing experience. Methods and techniques for writing grant proposals to fund public health programs and operations.
- 680-689 SPECIAL TOPICS IN PUBLIC HEALTH** *1-5 credits*
Special topic sections will focus on specific topics of current interest in public health.
- 695 INDEPENDENT STUDY** *1-3 credits*
Prerequisite: permission of academic advisor and instructor. Includes research or other individual projects designed jointly by student and instructor. Covers topics not available in electives listing. (May only be taken for a maximum of 3 credits.) Credit/noncredit
- 696 PRACTICUM** *1-3 credits*
Student is teamed with a faculty advisor and community preceptor(s) to work on a meaningful public health issue. For students who desire additional field experience. Credit/noncredit.
- 697 CAPSTONE PROJECT** *3-6 credits*
Student is teamed with a faculty advisor and community preceptor(s) to work on a meaningful public health issue. Paper demonstrating applications learned will be required. Credit/noncredit.

Polymer Science & Polymer Engineering

POLYMER ENGINEERING 9841:

- 525 INTRODUCTION TO BLENDING AND COMPOUNDING POLYMERS** *3 credits*
Prerequisite: 4200:321 or 4600:310 or permission. Nature of polymer blends and compounds and their applications. Preparation and technology using batch and continuous mixers. Mixing Mechanisms.
- 527 MOLD DESIGN** *3 credits*

PUBLIC HEALTH

8300:

- 601 PUBLIC HEALTH CONCEPTS** *3 credits*
Prerequisite: Admission to the MPH program. Organizational structure, history, law, ethics, essential services, global problems, and future of public health.
- 602 SOCIAL AND BEHAVIORAL SCIENCES IN PUBLIC HEALTH** *3 credits*
Prerequisite: Admission to the MPH program. Theories of health education and promotion; interventions (communication, collaboration, and strategies); socio-cultural, diversity, and regional issues as pertains to public health.
- 603 EPIDEMIOLOGY IN PUBLIC HEALTH** *3 credits*
Prerequisite: Admission to the MPH program. Epidemiological concepts, methods, and public health applications. Student presentations to focus on special topics such as infectious diseases, chronic conditions, etc..

APPENDICES

Grievance Procedures for Graduate Students

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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.

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1. Any graduate student who believes that he or she has valid grounds for a complaint shall attempt to resolve the problem through a conference with the faculty member involved, the department head, and/or the graduate advisor. Following that, the student may attempt to resolve the problem with the assistance of the academic dean. A graduate student presenting a case to the academic dean must provide a full written statement of the grievance, together with all appropriate supporting material. When or if the problem has not been adequately solved at that level or the student wishes to appeal that decision, the student shall prepare a written statement of the complaint setting forth clearly and specifically the allegations and shall hand deliver the written complaint to the Dean of the Graduate School. The Dean of the Graduate School shall notify the complainant confirming the receipt of the complaint and shall request all materials from the Dean of the complainant's college.
2. Within one week of receipt of the complaint, the Dean of the Graduate School shall communicate with all parties in an attempt to informally resolve the problem. The result of this process will be a recommendation by the Dean of the Graduate School which will be communicated in writing to all parties, including the Senior Vice President and Provost.
3. The complaint shall become a grievance to be filed with the Senior Vice President and Provost if: 1) the Dean of the Graduate School wishes to have a Hearing Committee render a recommendation on the grievance; or 2) the student wishes to appeal the recommendation of the Dean of the Graduate School. The student must notify the Senior Vice President and Provost in writing within one week of notification of the Dean of the Graduate School's decision on the complaint.
4. Upon receipt of the grievance, the Senior Vice President and Provost shall notify in writing the President of Graduate Student Government that a Hearing Committee should be constituted. The Hearing Committee shall be organized in no more than two weeks.
5. When the grievance has been filed with the Chairperson of the Hearing Committee, it shall be the responsibility of that Chairperson to notify in writing all parties involved in the grievance within five working days. This notification shall include the following information: that a grievance has been filed; the nature of the grievance; and the parties involved.
6. If the charged party in that grievance admits the validity of the grievance, the Chairperson of the Hearing Committee shall waive the hearing and shall direct an appropriate resolution in consultation with the Hearing Committee.
7. If the party charged in the grievance denies the validity of the grievance, the Hearing Committee shall conduct the hearing.
8. At any point in the grievance process, the Chairperson may extend the deadlines with the mutual consent of all parties.

H E A R I N G C O M M I T T E E

A Hearing Committee shall be established as follows:

1. **Chairperson** – The Chairperson shall be a member of the graduate faculty with full membership, but not from a department involved in the proceedings. This Chairperson shall be chosen at random from an established pool selected by the Graduate Council and shall serve for only one grievance proceeding. The Chairperson shall conduct the hearing and shall vote only in the case of a tie.
2. **Members** – Four members shall be selected as follows:
 - a. A graduate student not involved with the complainant and not from the complainant's department, selected jointly by the Department Chair and the President of the Graduate Student Government. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Chair. If the grievance is filed against the department, the Senior Vice President and Provost shall substitute for the Department Chair.
 - b. A faculty member not involved with the complainant and not from the complainant's department, selected jointly by the Department Chair and the President of the Graduate Student Government. If the grievance is filed against the Department Chair, the Academic Dean shall substitute for the Department Head. If the grievance is filed against the department, the Senior Vice President and Provost shall substitute for the Department Chair.
 - c. A graduate student not involved with the complainant and not from the complainant's department, selected by the Vice Chairperson of the Graduate Council.

d. a member of the graduate faculty with full membership not involved in the complaint nor from the complainant's department, selected by the Senior Vice President and Provost.

3. A Hearing Committee shall be organized anew each and every time a grievance is brought forth. A Hearing Committee shall serve through the adjudication and resolution of the complaint.

H E A R I N G P R O C E D U R E S

1. The hearing must take place within three weeks of the Hearing Committee's formation.
2. At least three working days prior to the hearing, the Hearing Committee Chairperson shall provide the Hearing Committee and the Parties involved with:
 - a. The student's written statement of the grievance.
 - b. Written notification of when and where the Hearing Committee shall meet.
 - c. A copy of "Grievance Procedures for Graduate Students" and all relevant documents.
3. Each party shall be required to appear in person before the Hearing Committee to present his/her case. Each party may have an advisory/colleague present to protect his/her rights if so desired. However, the parties shall speak and act on their own behalf. Witnesses may be called to present evidence on behalf of the complainant or the charged person. The use of tape recorders is prohibited, except as may be required to accommodate persons with disabilities.
4. All parties shall be entitled to an expeditious hearing. In urgent cases in which it is alleged that a regulation, administration decision, or action threatens immediate and irreparable harm to any of the parties involved, the Hearing Committee shall expedite the hearing and disposition of the case. The Hearing Committee is empowered to recommend to the Dean of the Graduate School that an individual, department, or college discontinue or postpone any action which threatens to cause irreparable harm, pending the final disposition of the case.
5. The burden of proof shall be on the complainant and the standards of justice and fair play shall prevail in the adjudication of violations and grievances.
6. If necessary, the Hearing Committee may consult with the University's Office of General Counsel for advice at any time throughout this process.

D E C I S I O N A N D A P P E A L

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.

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Family Educational Rights and Privacy Act (FERPA)

A *rights* :

- 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 inaccu-

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.

C 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.

P All discoveries and inventions made by you while associated with The University of Akron must be reported to your faculty advisor, and through your advisor to your department chair, dean, and thereafter to the Office of Research Services and Sponsored Programs using the standard University of Akron invention disclosure form. This form provides a guide to describing and identifying the invention broadly and referencing specific results. Those persons thought to be possible inventors should also be identified on this form.

Patents on inventions made by University faculty, staff, students or anyone using University facilities are automatically owned by The University of Akron, as provided by Ohio Revised Code Section 3345.14. The final decision as to inventorship is a technical legal conclusion and will be made in the course of preparing a patent application by the patent attorney handling the application.

P Those engaged in sponsored research may also be involved with developing or receiving proprietary information owned by others outside the University (e.g., sponsors such as corporations and individuals seeking certain research from the University). The University and the principal investigator may have agreed to maintain this proprietary information in confidence. In some situations, proprietary information of a sponsor may be provided to you or other project investigators during a research project. The sponsor desires, in these situations, to keep the information confidential (or secret) for as long as possible.

You are free to use the confidential information in the course of the project and discuss it with other students or faculty members engaged in that project. **However, you may not use the information on other projects, nor may you discuss it with other individuals not involved with that project.** While these commitments could delay public access to your thesis for a specified time, it will not delay acceptance or approval of your thesis/dissertation nor delay your graduation date.

The University and principal investigator must have written personal commitments from anyone working on a project involving and securing proprietary information. Therefore, all research students are required to execute the Confidentiality Agreement (sample form attached to this page). Prior to the start of your research, it is the responsibility of the research director to inform you in writing of any restrictions on the research with a copy also sent to the Office of Research Services and Sponsored Programs, if your research is subject to confidentiality provisions. You are also to be informed by the research director about the scope of the research that is covered by any confidentiality provisions.

If you have any questions as to what information is proprietary, seek guidance from your project's principal investigator or your faculty research advisor.

Q 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.

(Sample)

THE UNIVERSITY OF AKRON INVENTION PATENT AGREEMENT

Name: _____
Last First Middle Initial
Social Security No.: _____

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DIRECTORY

B T

May 2003

DR. MARK N. APTE (Term expires 2003) - Serves Chair
MR. EDWARD L. BITTLE (Term expires 2011)
DR. WILLIAM F. DEMAS (Term expires 2008)
DR. DONALD E. DEMKEE (Term expires 2005) - Serves as Vice Chair
DR. JOHN A. FINK (Term expires 2006)
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MR. PHILIP S. KAUFMANN (Term expires 2010)

S T

MS. CRISTINA C. PASTORE (Term expires 2003)
MR. ROBERT B. PRESTON III (Term expires 2004)

O B

MR. TED A. MALLO, *Vice President and General Counsel; Secretary of the Board of Trustees.*
MR. RUSSELL D. SIBERT, *Vice President of Board Operations; Assistant Secretary of the Board of Trustees.*

P V P

September 2003

LUIS M. PROENZA, *President of the University*, Ph.D.
THEODORE CURTIS, *Vice President for Capital Planning and Facilities Management*, B.S.
THOMAS GAYLORD, *Vice President for Information and Instructional Technologies, Libraries & Institutional Planning (CIO)*, Ph.D.
JOHN A. LaGUARDIA, *Vice President for Public Affairs and Development*, M.A.
TED A. MALLO, *Vice President and General Counsel*, J.D.
GEORGE R. NEWKOME, *Vice President for Research and Dean of the Graduate School*, Ph.D.
ROY L. RAY, *Vice President for Business and Finance, CFO*, B.S.
ELIZABETH J. STROBLE, *Senior Vice President and Provost*, Ph.D.

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WILLIAM H. BEISEL, *Interim Dean of the Community and Technical College*, Polsky Building 215, 972-6578
WILLIAM H. BEISEL, *Dean of Workforce Development and Continuing Education*, Polsky Building 466, 972-7577
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ROGER B. CREEL, *Dean of the Buchtel College of Arts and Sciences*, College of Arts and Sciences Building 448, 972-7880
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FRANK N. KELLEY, *Dean of the College of Polymer Science and Polymer Engineering*, Goodyear Polymer Center 325, 972-7500
JOHN P. KRISTOFKO, *Dean of Wayne College*, 1901 Smucker Road Orrville 44667, 1-800-221-8308
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DELMUS WILLIAMS, *Dean of University Libraries*, Bierce Library 161D, 972-7497

G C

September 2003

GEORGE R. NEWKOME, *Vice President for Research and Dean of the Graduate School*, Chair
Term expires August 31, 2004

SUSAN KUSHNER BENSON, *Ph.D., College of Education*
CAROL A. FLEXER, *Ph.D., College of Fine and Applied Arts*
GARY B. FRANK, *Ph.D., College of Business Administration*
PETER J. LAVRENTYEV, *Ph.D., College of Arts and Sciences: Natural Sciences*
REX D. RAMSIER, *Ph.D., College of Arts and Sciences: At-Large*

Term expires August 31, 2005

JULIE DREW, *Ph.D., College of Arts and Sciences: Humanities*
MARYHELEN C. KREIDLER, *Ed.D., College of Nursing*
NARENDER P. REDDY, *Ph.D., College of Engineering*
JAMES R. ROGERS, JR., *Ph.D., College of Education*
BERNADETTE M. RUF, *Ph.D., College of Business Administration*

Term expires August 31, 2006

CHARLES BENEKE, *MFA., College of Fine and Applied Arts*

MARTIN D. MURPHY, *Ph.D., College of Arts and Sciences: Social Sciences*
EROL SANCAKTAR, *Ph.D., College of Polymer Science and Polymer Engineering*
KECHUKWU UGWEJE, *Ph.D., College of Engineering*

G E *

September 2003

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.*
RULA ABISAAB, *Assistant Professor of History (1998) B.A., American University of Beirut; M.A., California State University at Fullerton; M.Phil., Ph.D., Yale University, 1998.*
STEPHEN H. ABY, *Professor of Bibliography; Education Bibliographer (August 1988) B.A., University of Texas at Austin; M.A., University of Houston; Ph.D., State University of New York at Buffalo; M.L.S., Kent State University, 1984.*
MARIA ADAMOWICZ-HARIASZ, *Associate Professor of Modern Languages (1995) M.A., Maria Curie-Skłodowska University, Poland; M.A., Ph.D., University of Pennsylvania, 1994.*
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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, 1991.*
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SONIA ALEMAGNO, *Associate Professor of Public Administration and Urban Studies; Senior Research Associate, Health and Social Policy; Associate Director, Institute for Social and Health Policy (1998) B.A., John Carroll University; M.A., Kent State University; Ph.D., Case Western Reserve University, 1991.*
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SHELLEY O. BARANOWSKI, *Professor of History (1989) B.A., Wells College; M.A., Ph.D., Princeton University, 1980.*
JAMES BARNETT,

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ARKADY I. LEONOV, *Professor of Polymer Engineering* (1988) B.S., Moscow Institute of Chemical Engineering; M.S., Moscow State University; Ph.D., USSR Academy of Sciences; Ph.D., Karpov Physico-Chemical Research Institute, Moscow USSR, 1969.

SHARON A. LESNER, *Professor of Speech-Language Pathology and Audiology; Fellow, Institute for Life-Span Development and Gerontology* (1979) B.A., Hiram College; M.A., Kent State University; M.A., Wayne State University; Ph.D., The Ohio State University, 1979.

MICHAEL J. LEVIN, *Assistant Professor of History* (1999) B.A., Vassar College; M.A., Ph.D., Yale University, 1998.

PAUL E. LEVY, *Professor of Psychology; Fellow, Institute for Life Span Development and Gerontology; Associate Director of the Center for Organizational Research* (1989) B.A., Washington and Lee University; M.S., Ph.D., Virginia Polytechnic Institute and State University, 1989.

JUDITH H. LEWIS, *Director of Nursing Education; Associate Professor of Nursing* (June 2000) B.S.N., M.S., The Ohio State University; Ed.D., University of Cincinnati, 1991.

DALE M. LEWISON, *Professor of Marketing; Department Chair of Marketing* (1981) B.Ed., University of Wisconsin; M.A., Ph.D., University of Oklahoma, 1974.

RUTH OSWALD, *Assistant Professor of Education* (2001) B.S., M.S., Ph.D., The University of Akron, 2000.

DONALD W. OTT, *Professor of Biology* (1974) B.S., Southeastern Louisiana University; Ph.D., University of North Carolina at Chapel Hill, 1973.

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KATHARINE OWENS, *Associate Professor of Education* (1997) B.A., Nazareth College; M.S., Texas A & M University; Ed.D., University of Mississippi, 1997.

LYNNE M. PACHNOWSKI, *Associate Professor of Education* (1993) B.A., M.Ed., John Carroll University; Ph.D., Boston College, 1994.

ARTHUR L. PALACAS, *Professor of English* (1976) B.A., Harvard University; Ph.D., Indiana University at Bloomington, 1970.

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ERNIAN PAN, *Associate Professor of Civil Engineering* (2002) B.S., Lanzhou University; M.S., Beijing University, Ph.D., University of Colorado at Boulder, 1993.

LISA E. PARK, *Associate Professor of Geology* (1995) B.A., College of Wooster; M.S., Ph.D., University of Arizona, 1995.

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GEORGIA K. PEEPLES, *Professor of Music* (1983) B.M., Baylor University; M.A., University of North Carolina; D.M.A., University of Maryland, 1981.

WOLFGANG PELZ, *Professor of Computer Science; Professor of Statistics; Department Chair of Computer Science; Intellectual Property Center Fellow* (1978) B.S., Rose Hulman Institute of Technology; M.S., Ph.D. (Statistics), M.S. (Computer Science), Virginia Polytechnic Institute and State University, 1984.

BRIAN F. PENDLETON, *Professor of Sociology* (1978) B.A., University of Minnesota at Duluth; M.A., University of North Dakota; Ph.D., Iowa State University, 1977.

LINDA M. PEROSA, *Assistant Professor of Education* (1998) B.A., M.A., M.Ed., Ph.D., State University of New York at Buffalo, 1983.

SANDRA L. PEROSA, *Professor of Education* (1989) B.A., M.A., M.Ed., Ph.D., State University of New York at Buffalo, 1983.

DAVID S. PERRY, *Professor of Chemistry; Department Chair of Chemistry* (January 1987) B.Sc., Ph.D., University of Toronto, 1975.

VICTOR E. PINHEIRO, *Associate Professor of Physical and Health Education* (1989) B.S., M.S., Jiwaji University; Ph.D., University of Pittsburgh, 1989.

R. BYRON PIPES, *The Goodyear Tire and Rubber Company Professor of Polymer Engineering; Direc-*

JAMES R. SLOWIAK, *Professor of Theatre Arts* (1989) B.A., Macalester College; M.F.A., University of California-Irvine, 1985.

DANIEL J. SMITH, *Professor of Chemistry; Faculty Research Associate, IPS* (1977) B.S., Wisconsin State University; Ph.D., University of California at Berkeley, 1974.

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The University of Akron
Akron, Ohio 44325-4709
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330-972-7300

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Social security no. _____ LAST NAME _____ First _____ Middle initial _____

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Permanent address No. and street _____ City _____ State _____ Zip/Postal code _____ Province (non U.S.) _____ Country (non U.S.) _____ Ohio County code (from reverse side) _____

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Phone no. (including area code) _____ Date of birth MO. _____ DAY _____ YR. _____
()

Name of person to contact in case of emergency (first name, middle initial, last name): _____ Relation (check one): _____

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Please check one of the following (optional):
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I plan to enter (check one--must be for a term following completion of all baccalaureate requirements): _____ I will attend classes during the _____

PROGRAM DATA

My intended program is: _____ Do you plan to pursue an advanced program leading to a degree?
 YES (check one) NO, Nondegree Status is desired
 Master's program NO, Certificate program
 Doctoral program (Program Code number required for above)

Program Code number: _____
(select number from reverse side)

I am applying for an assistantship
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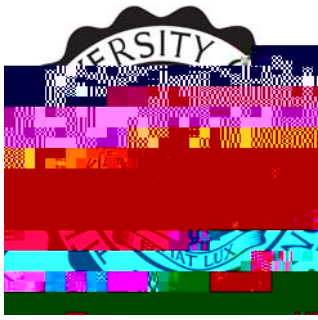
U.S. citizen
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Native language _____

ARTS AND SCIENCES

300001GC Women's Studies Certificate
300006GC Gerontology Certificate
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Department _____ Area of Specialization _____

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| <i>College or University</i> | <i>Degree</i> | <i>Major Field</i> | <i>Date Awarded/Expected</i> |
|------------------------------|---------------|--------------------|------------------------------|
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OTHER PROFESSIONAL EXPERIENCE (employment, etc.)

LETTERS OF REFERENCE

Persons listed (name, title, and address) should be sufficiently acquainted with you and your work to write a letter of recommendation. Have each person listed write a letter directly to the department chair/school director concerned.

APPLICANT'S STATEMENT

On the back of this form write a short essay in which you explain why you believe you are qualified for an assistantship or fellowship. You should describe your undergraduate preparation as well as other relevant experiences, such as employment, teaching, activity in professional or technical societies, foreign languages read or spoken, and any other pertinent information.

Send this application to:

Chair/Director
Department/School of _____
The University of Akron
Akron, Ohio 44325

Signature of Applicant

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